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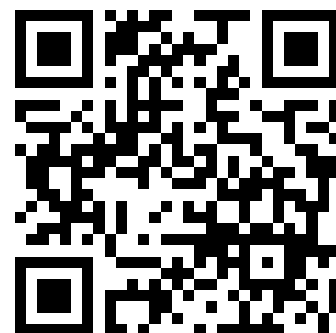
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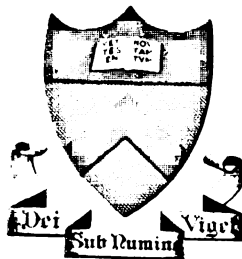
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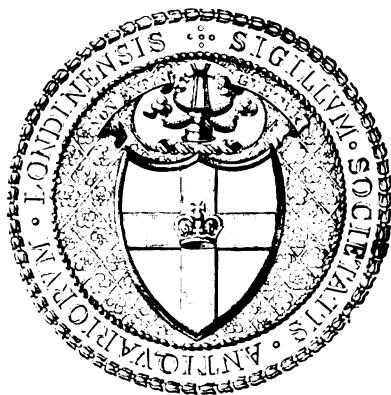
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OR
MISCELLANEOUS TRACTS
RELATING TO
ANTIQUITY.

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M.DCCCXVIII.

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^a The Society is indebted to Messrs. Longmans, Green, and Co. for the loan of the blocks of these illustrations.

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ERRATUM.

Page 2, line 14, *for* "N.E.," *read* "N.W."

ARCHAEOLOGIA:
OR,
MISCELLANEOUS TRACTS,
&c.

I.—*On the Stone Circles of East Cornwall.* By H. ST. GEORGE GRAY, Esq.

Read 12th December, 1907.

I.—INTRODUCTORY REMARKS.

IN describing the "Stripple Stones" circle and the excavations which have taken place there, it is my intention to confine my remarks very largely to them, and to bear in mind that the work of excavation was conducted with a view of endeavouring to ascertain the approximate date of construction of this ancient monument. Descriptions, however, will be given of stone circles in the immediate vicinity, two of which the writer took the opportunity of surveying in 1905 and two in 1906, the five forming a group on Bodmin Moors.

II.—EXCAVATIONS AT THE "STRIPPLE STONES" CIRCLE,
EAST CORNWALL.

1. THE POSITION OF THE CIRCLE.

THE Stripple Stones,^a the largest stone circle of Devon and Cornwall, excepting the Fernacre circle, which slightly exceeds it,^b is situated in East Cornwall in the

^a "From certain depositions in the Exchequer of the reign of Queen Elizabeth (*Depositions in the Exchequer*, 41 Eliz.) it appears that at that time this circle was known as 'Stripple Stones.'" (Macleay's *History of Trigg Minor*, i. 24; also *V. C. H. Cornwall*, i. 391.) The circles on Bodmin Moors are not mentioned in Lysons's *Magna Britannia* (vol. iii. Cornwall, 1814); nor in R. Carew's *Survey of Cornwall*, 1602; nor in Wm. Borlase's *History of Cornwall*, 1769. W. C. Borlase in *Nænia Cornubiæ*, 1872, makes but slight allusion to the Stripple Stones.

^b East Cornwall, with the exception of the small Duloe circle (diameters from 34 to 39 feet according to Mr. Dymond), contains all the largest circles in Cornwall. Mr. Tregelles gives the diameter of this circle as 37 and 39 feet (*V. C. H. Cornwall*, i. 400).

ancient deanery of Trigg Minor, on the portion of Bodmin Moors known as Hawkstor Downs. From Bodmin the circle is $7\frac{1}{8}$ miles, as the crow flies, in a N.E. direction; $9\frac{1}{2}$ furlongs N. of Temple; 3 miles E.N.E. of Blisland Church (in which parish it is located); $5\frac{3}{4}$ miles S.S.E. of Camelford; and $8\frac{1}{2}$ miles from the nearest point of the sea in Port Isaac Bay. The most important ancient monuments and hills in the vicinity are at the following distances from the Stripple Stones^a: the Trippet Stones, W.S.W., 4,175 feet (over $\frac{3}{4}$ mile); the Leaze circle, N.N.W., 7,230 feet (rather less than $1\frac{1}{2}$ mile); the Stannon circle, N.N.W., 16,770 feet (about $3\frac{1}{4}$ miles); the Fernacre circle, due N., 15,675 feet (3 miles); King Arthur's Hall,^b an oblong earthwork enclosing a single line of stones parallel to the sides, N.N.W., about $1\frac{3}{4}$ mile; the summit of Brown Willy (height 1,375 feet), N.N.E., $3\frac{1}{8}$ miles; Rough Tor (height 1,312 feet), due N., $3\frac{1}{2}$ miles; Garrow Tor (height 1,087 feet), due N., 2 miles; Hawk's Tor (height 1,006 feet), the summit N.E., $\frac{3}{4}$ mile; and Carbilly Tor (height 872 feet), a little N. of W., rather over a mile.

The nearest part of the disused Hawkstor china clay works is $\frac{1}{2}$ mile distant to the S.W., between which and the circle is a small farmhouse. Hawkstor farmhouse is about $\frac{1}{4}$ mile to the N.E. Neither of these farms is marked on the 6-inch Ordnance Sheets published in 1890, but surveyed in 1881.^c There is a barrow to the E. in the adjoining cornfield, containing a cist (see Appendix I.), which according to Mr. Lukis is 232 feet from the central stone of the circle.^d My own measurement gave 236 feet from the approximate centre of the barrow to the N.W. corner of the central stone of the circle. From the latter point the cist is almost due E. (bearing 94 degrees). Mr. G. F. Tregelles's measurement of 110 feet was doubtless made from the E. margin of the rampart enclosing the circle, which has now disappeared in this part.

^a These distances and similar ones throughout this paper have been carefully measured and checked on the 6-inch Ordnance Sheets, each sheet by its own scale; for it is found that the scale varies slightly owing to the unequal shrinkage of the paper after printing.

^b On 2nd July, 1905, the writer visited King Arthur's Hall, and found it in much the same condition as represented in Mr. Lewis's sketch plan in the *Journal of the Anthropological Institute*, xxv. pl. i. (The same plan is also figured in the *V. C. II. Cornwall*, i. plate facing p. 392.) The writer checked the stones with this plan, but could not find the smallest erect stone in the N. half of the E. side, nor could two of the fallen stones be found, viz. the fourth from the E. on the N. side, and the first from the N. of the W. side. On 24th September, 1906, the writer made a second visit to "the Hall" and photographed it from the S.W., with Rough Tor in the distance.

^c The last published 25-inch Ordnance Sheet, including the Stripple Stones, was surveyed in 1882.

^d *Prehistoric Stone Monuments of Cornwall*, by Rev. W. C. Lukis, 1885, p. 3, and pl. viii. It seems to me that Lukis made his measurement from the S.S.E. corner of the central stone.

The circle is on the S.E. slope of Hawk's Tor (see Plate III. fig. 1) about 90 feet lower than the summit, *i.e.* about 915 feet above sea-level. Open downland surrounded it on all sides until recent years, but in or about 1885^a a new "take," or enclosure,^b was formed, the granite walls of which were built across the E. and N.E. portion of the vallum of the Stripple Stones, which, as may be better understood by reference to the plans of Lukis and Borlase of 1879 and of Tregelles of 1902,^c has entirely ruined these parts of the circle, fosse and vallum. The average height of this wall is 4.1 feet. (See Photographs, Plate III. fig. 2, and Plate IV. fig. 1.)

As may be seen by the contours on the 6-inch Ordnance Sheet XXI. S.W., the area on which the circle is placed, although on a gentle slope (as shown by the 6-inch contours on the plan, Plate I.), is flatter than any of the ground in the immediate vicinity.

A glance at the 1-inch Ordnance Sheet shows (1) that Rough Tor is due N. of the Stripple Stones and that Garrow Tor and the Fernacre circle fall in the same line precisely; and (2) that a line connecting the Stripple Stones with the Leaze circle and extended in a N.W. direction passes only 3 degrees on the E. side of the Stannon circle.

The remains of hut-circles abound in the vicinity of the Stripple Stones (and the four neighbouring circles also). There are large groups to the E.S.E. and S.E. on Brockbarrow (or Brockabarrow) Downs and on Blacktor Downs, and there are many good examples on the downs near Blisland and on Kerrow Downs. (Plate VI. fig. 1.) It seems to be highly probable that these were the dwelling-places of the people who constructed and used the neighbouring stone circles, but as yet we have no absolute proof that the same race of people erected the circles and the huts.^d

2. DIRECTION OF HILLS AND OTHER CIRCLES IN THE VICINITY.^e

Observations taken from the Stripple Stones, from the 1-inch Ordnance Sheet:

Trippet stones, 11 degrees S. of W.

^a This date was given me by the tenant of Hawkstor farm.

^b Brief mention is made of this new "take" in the *Journal of the Royal Institution of Cornwall*, ix. 497, where "Stripple," however, is spelt "Stipple."

^c *V. C. H. Cornwall*, i. plate facing p. 390.

^d Mr. Lewis has written, "If we are to judge of the Cornish huts from the results of the excavations in the huts at Grimspound and elsewhere on Dartmoor, that period must be a very early one." (*Journal of the Anthropological Institute*, xxv. 4.)

^e For Mr. Lewis's angles, see "Stone Circles of Britain," *Archæological Journal*, xlix. 148-150.

Stannon circle, 21 degrees W. of N.

Leaze circle, $18\frac{1}{2}$ degrees W. of N.^a

Top of Rough Tor visible over the top of Garrow, both due N., Fernacre circle on the same line.

Top of Brown Willy, $16\frac{1}{2}$ degrees E. of N.

Top of Hawk's Tor, 34 degrees W. of N.

Butter's Tor, 19 degrees E. of N.

Catshole Tor, 36 degrees E. of N.

3. DESCRIPTION OF THE CIRCLE.

The plan (Plate I.) encloses an area of 280 feet from due N. to S.,^b by 255 feet from E. to W., the ground covering 1.64 acre. The original plan was plotted to a scale of 192 to 1, in other words, 16 feet to an inch. The magnetic variation for the 1st January, 1905, at Temple, was 17 degrees 35 minutes west of true north.^c The plan with its 6-inch contours shows a maximum fall of 10 feet from the highest ground in the N.W. corner to the lowest at the S.W. corner. The area encompassed by the stones is almost level at the centre and at the N., N.E. and E.; the greatest fall of this plateau, viz. $2\frac{3}{4}$ feet, is from N.N.E. to S.S.W. Owing to the mutilation of the vallum and fosse it is not possible to give the diameter of this platform with any degree of precision.

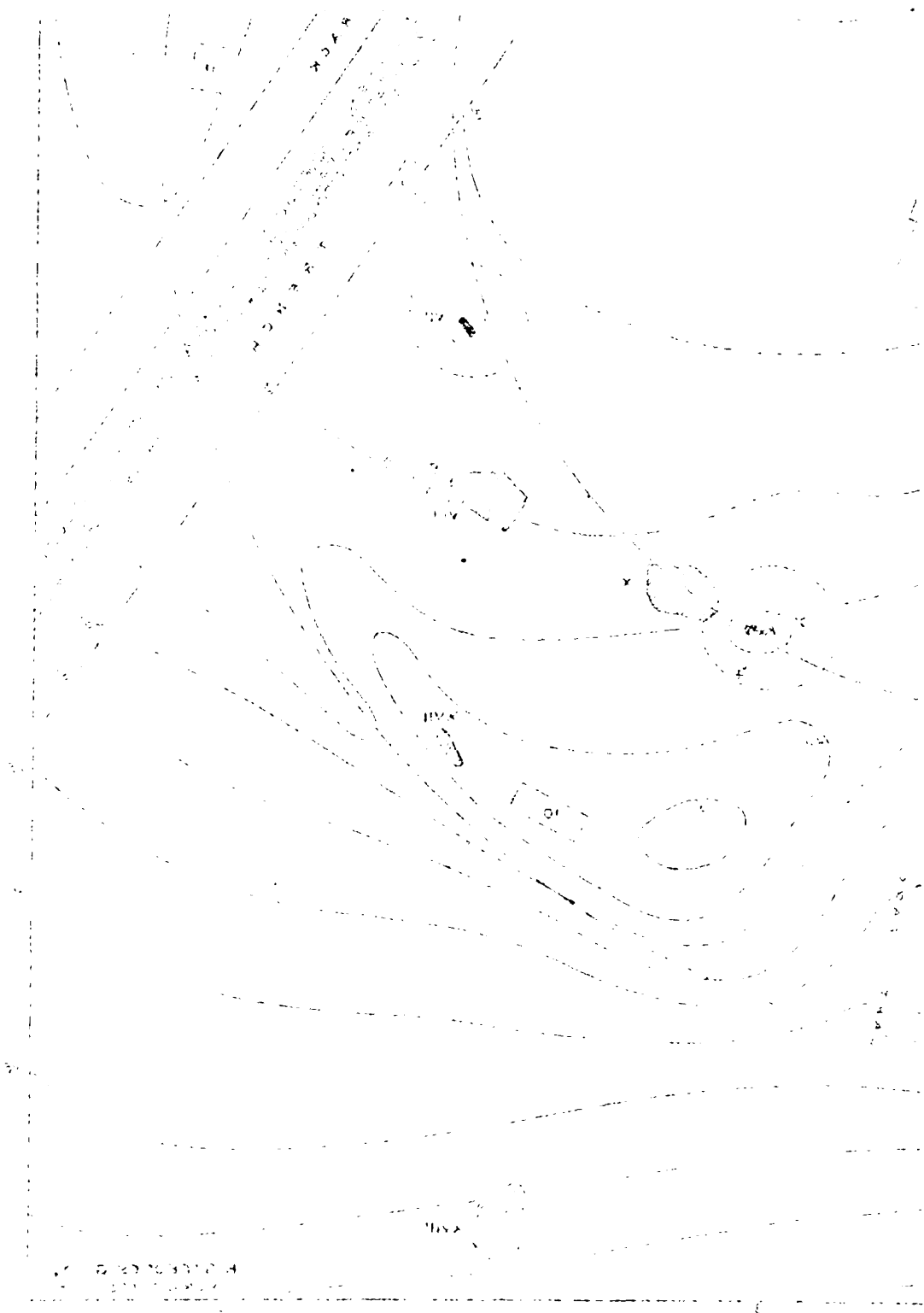
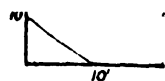
The Stripples Stones circle was selected for excavation as being one of the few stone circles surrounded by a vallum and fosse, the latter within the former. Other circles of this type, all of which have better defined vallums and fosset than the Stripples Stones, are: Avebury (Wilts), Arbor Low (Derbyshire), and Stennis (Orkney). Arthur's Round Table (Cumberland)^d is similar, but the vallum is divided from the fosse by a berm, and the central area has no stones remaining. In the case of Stonehenge the fosse is outside the vallum. The Rings of Brogar and Bùkan, near Stennis, have a surrounding fosse but no vallum, and the latter has no monoliths existing.

^a Taken from the 6-inch Ordnance Sheet the Leaze circle is 20 degrees W. of N. from the Stripples Stones, so that none of these directions is *absolutely* correct.

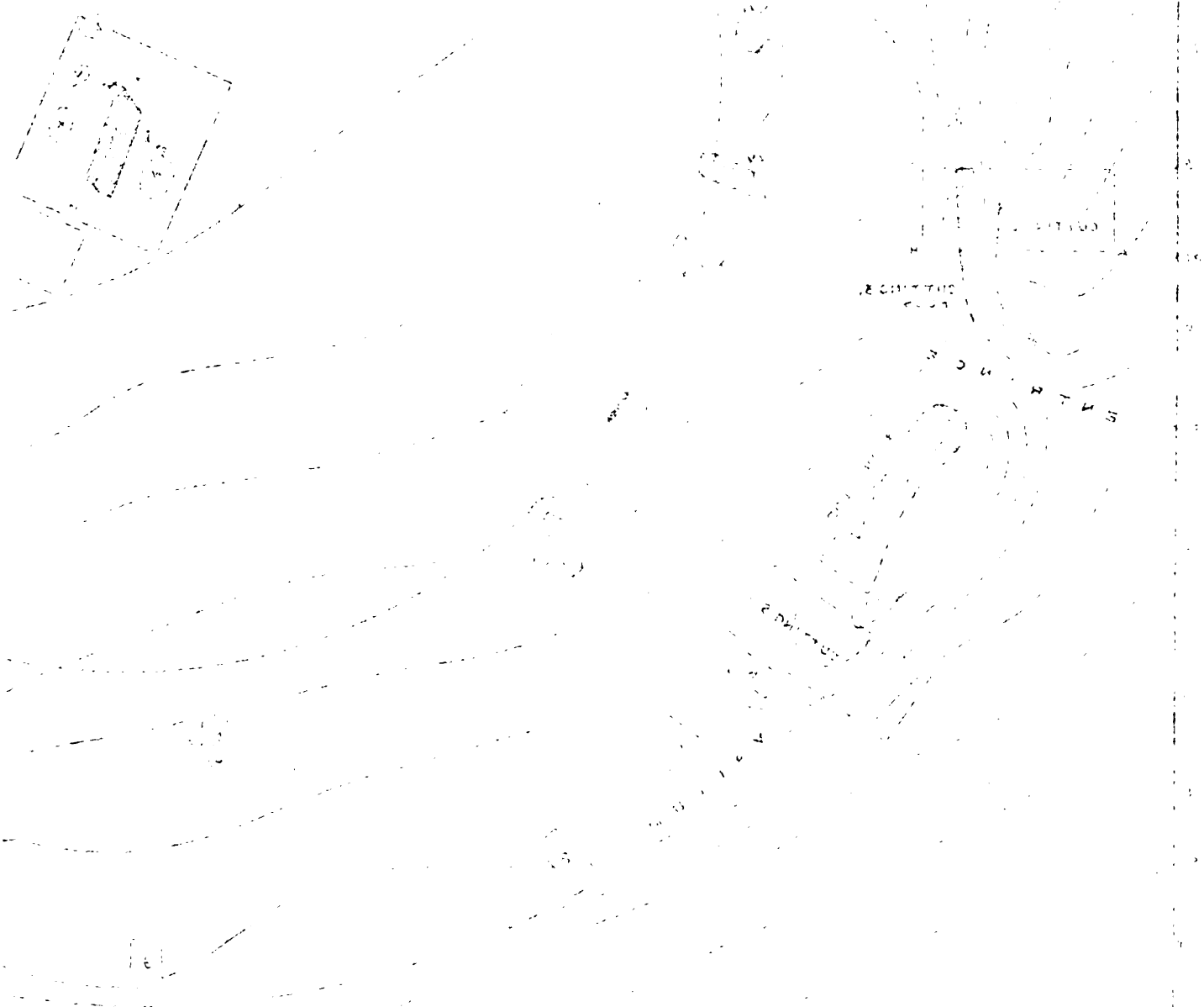
^b My plans of the Trippet Stones and the Fernacre, Stannon, and Leaze circles, have margins due N. and S. and E. and W.

^c My thanks are due to the Director-General of the Ordnance Surveys, Southampton, for this information.

^d *Transactions of the Cumberland and Westmorland Antiquarian Society*, xi. (1890), 187-219.



10 20 30 40 50 60 70 80 90 100
 110 120 130 140 150 160 170 180 190 200
 210 220 230 240 250 260 270 280 290 300
 310 320 330 340 350 360 370 380 390 400
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THE OFFICIAL RECORDS
OF THE
HAWAIIAN ISLANDS
1892-1893

THE OFFICIAL RECORDS
OF THE
HAWAIIAN ISLANDS
1892-1893

The vallum and fosse enclosing the Stripple Stones are very irregularly defined, and from external appearances at the present day it cannot be stated that any fosse exists except on the W., N.W., N. and N.E. At these points the surface of the silting in the middle of the ditch is 1·5 foot lower than the adjacent central area on which the monoliths rest. As will be seen by the contours on the plan, Plate I., the highest part of the existing vallum is on the N.W. where it rises to 3 feet above the silting of the ditch and 1·5 foot above the central area. It is about the same height on the N.E. near the wall, but on the N. there is a considerable flattening of the bank which appears to be a modern mutilation.^a "Bays," or recesses, in the outer margin of the fosse are seen by the contours to exist at the present time on the W.N.W. and N. Lukis stated that there were three "semi-lunar projections in the vallum on the N.W., N.E. and E."^b Two of these demi-lunes are still clearly traceable, but the eastern one has been destroyed with the rest of the earthworks on that side owing to the formation of the modern walled enclosure, previously referred to, and mutilation subsequently by the plough. These features are very unusual if not unique; but being outlined in two other plans of the circle,^c they have been omitted in order to avoid confusion with the contour lines, which latter, moreover, show every inequality of the surface existing at the present time.

Coming round to the W.S.W. side there is a gap in the vallum for a distance of about 15 feet, and the ditch loses itself in what appears to be the ancient entrance or approach to the central area. The middle of the entrance with reference to the centre of the circle (a little to the N. of the central stone, not the point where the central stone stood) is approximately 19 degrees S. of W., whereas the centre of the Trippet Stones regarded from the centre of the Stripple Stones is 11 degrees S. of W.; so that the entrance-way cannot be said to open *exactly* in the direction of the Trippet Stones, as viewed from the *centre* of the circle.^d From the excavations, however, it is clear that the central stone when standing, the middle of the entrance-way, and the Trippet Stones, were approximately in line.

With regard to the southern half of the enclosure a rampart exists averaging 1·5 foot in height, very irregular and ill-defined; but from superficial appearances

^a Carts going from Hawkstor farm to the main Bodmin and Launceston road (*viâ* the disused china clay works) traverse the middle of the circle from N. to S.

^b *Prehistoric Stone Monuments of Cornwall*, p. 3, and pl. viii. ("Mag. N. Mer. taken to be 20 degrees 30 minutes W. of N." Lukis, 1879).

^c *Op. cit.*; and *V. C. H. Cornwall*, i. 390.

^d *Journal of the Anthropological Institute*, xxv. 7.

no ditch can be said to exist on the S.W. and S., although *slight* traces of one are observable around Stone XVII. and to the N.E. of it nearly as far as the S.E. wall. On the S. and S.S.W. the rampart is little more than 0·5 foot high; and a modern cart-track, 8 feet wide, on the S.S.E. entirely obliterates the bank.

The approximate diameter of the crest of the vallum is 224 feet, estimated from a *centre* $2\frac{3}{4}$ feet to the N.W. of the N.W. corner of the central monolith (No. I.). It deviates very slightly from the true circle, except of course where the demi-lunes occur. The periphery of the crest of the vallum surrounding the Arbor Low circle constituted almost a true circle with a diameter of 250 feet (76·2 m.). The bottom of the fosse of the Stripple Stones (N. half), as seen on the surface of the silting, declines from the line of the true circle far more than the rampart. The same observation was made at Arbor Low, and for reasons given elsewhere this is only what would be expected.^a But the ditch at the Stripple Stones is more irregular than at Arbor Low. Describing a circle from a point 5 feet S.S.W. of the N.W. corner of the central stone, we get an approximate diameter of 197 feet for the ditch, the diameter at Arbor Low being 190 feet (58 m.).

Notes on the Position of the Stones.—Details regarding the position and size of the stones individually are given in Appendix II. Like the Trippet Stones and the Leaze circle, which the writer surveyed during his stay at Kerrow in 1905, the stones comprising the Stripple Stones were found to be arranged in relative positions approximating to a true circle having a diameter of $146\frac{1}{2}$ feet,^b the *centre* occurring $2\frac{1}{2}$ feet to the W.N.W. of the N. point of the central prostrate stone.^c Lukis gave the diameter of the circle as $148\frac{1}{2}$ feet,^d but Mr. Lewis has already pointed out that “it is doubtful from his own (Lukis’s) plan whether it is

^a *Archaeologia*, lviii. 465.

^b The diameters given for stone circles sometimes differ considerably, the cause arising not only from measurements taken in a perfunctory manner but from the method of measurement. Most observers make their calculations on the ground, which is not altogether satisfactory, and precision is not arrived at in that way. If a thoroughly reliable plan is made all horizontal measurements can be made at home. In estimating the diameters of these Cornish circles on the plans the writer has found the centre and described a circle through the middle of the standing-stones as far as possible, at the same time bearing in mind the approximate position in which the recumbent stones originally stood. As would be expected, instances of aberration occur; and the central stone at the Stripple Stones is found to be excentric.

^c Thus it is seen that the centre of the circle of stones and the centre from which the circle was described to ascertain the diameter of the vallum do not correspond by a distance of 3·7 feet.

^d The diameter of the Stripple Stones in “Hestingot feet” is 135·6, the Trippet Stones 100, and the Leaze circle 75. These dimensions are based on the method of calculation set forth in Mr. E. M. Nelson’s pamphlet *On British Stone Circles*, 1907.

not 2 feet less." Mr. Tregelles gives the diameter as about 145 feet.^a The Fernacre circle is only $2\frac{1}{2}$ feet greater in diameter than the Stripple Stones. Whether this close similarity was the result of accident or intention on the part of the constructors we have no positive means of ascertaining.

Of the four stones still standing (Plate IV. fig. 1), viz. Nos. IV. VII. X. and XIII. all fall in the line of the true circle except No. VII., which, like No. II. in the case of the Leaze circle, is placed a foot or two on the outside. The monument was undoubtedly intended to have a true circular form, but the modes of measuring adopted by the early constructors were probably of a primitive and inexact kind. At the same time it must be recollected that "soil-creep" is sometimes responsible for a slight alteration in the position of stones. Although the recumbent stones do not now all fall on the periphery of the circle, there is no reason to suppose that any of them, when in their original erect positions,^b were misplaced even as much as Standing-stone No. VII. Without verification afforded by excavations round all the prostrate stones, it was possible to make the following deductions from the circle with a diameter of $146\frac{1}{2}$ feet described on the plan, Plate I.:

1. That Stone No. I. is to the S.E. of the true centre of the circle;
2. That Nos. II. and III. had fallen inwards;
3. That Nos. V. and VI., although lying beside the modern wall, are perhaps stones (or portions of stones) of the circle;^c
4. That it is uncertain whether No. VIII., a large stone broken into three pieces, is in its original position;^d
5. That No. IX. had fallen in a S.W. direction;
6. That No. XI. had been displaced, possibly since it became a recumbent stone;
7. That No. XII. had fallen outwards;

^a *V. C. H. Cornwall*, i. 390.

^b Stones VIII. XVII. and XVIII. are of course not under consideration in this respect.

^c No. VI. is in the same relative position as one of the eastern stones on Lukis's plan of 1879, but no stone is shown in his plan corresponding with No. V. of my plan, so that it is quite possible that the latter was introduced when the wall was being built in 1885. Lukis in his plan gives another prostrate stone to the S.S.E. of Stone VI. which appears to fall in the line of the middle of the modern stone wall, and as there is no trace of it at the present time it is quite probable that the stone fence envelops it.

^d This stone (No. VIII.) is shown in Lukis's plan of 1879 and in Tregelles's plan of 1902 as being in two pieces only. Midway between Stones VII. and IX. and in the line of the true circle Lukis gives another stone which has now disappeared. This missing stone appears to have fallen in a southerly direction.

8. That Stone XIV. had fallen in a N. direction.
9. That Stone XV. fell outwards suddenly and "kicked" inwards covering its hole; and
10. That Stone XVI. not yet completely prostrate,^a has been gradually falling during many years, which accounts for its position a little outside the true circle.

The outlying Stones Nos. VIII. XVII. and XVIII. are probably not in their original places, but they may have belonged to the circle. Taking the present position of the remaining stones into consideration and the gap existing between Stones II. and XVI.,^b it may safely be stated that the circle originally consisted of twenty-eight standing-stones placed at an average distance of $16\frac{1}{2}$ feet apart. Of stones in their relative positions in the true circle there are at the present time four standing, one (No. XVI.) almost recumbent, eight recumbent, and one (No. V.) which may not have been a stone of the circle but merely a modern introduction when the wall was built. In Lukis's plan (1879) we get five standing-stones and ten prostrate stones falling in the line of the circle, which shows that during the last three decades the Stripples Stones have altered a good deal from pillage.

The position of the stones in plans of the Stripples Stones already published is only approximately correct. The stones are not carefully drawn and sufficient measurements to ensure absolute accuracy do not appear to have been taken.^c

As is the case in most other stone circles, the standing and recumbent stones rest in depressions, but those of the former, as one would expect, are more pronounced than the latter. Needless to say, since cattle and other domestic animals constantly use the standing-stones for rubbing against, the operation increases the depth of these hollows, which in wet seasons are filled with water, a state of things to be deplored, as the prostration of the rest of the monoliths is rendered probable at no distant date. The standing-stones are, however, supported to a certain extent by the tussocks, about 1 foot high, which grow round them. All the stones are of granite.

^a Mr. Lukis regarded this stone as a standing one in 1879. See plan ($\frac{1}{4}$ inch to 5 feet), pl. viii. of *Prehistoric Stone Monuments of Cornwall*.

^b By probing Mr. Tregelles claims to have found two buried stones on the line of the circle, viz. between Standing-stone No. VII. and the wall, and between Stones Nos. II. and XVI. The latter is indicated on my plan. The other is mentioned on p. 14. Probing, apart from actual digging, unless very carefully carried out, may be regarded on the whole as rather unsatisfactory.

^c The writer takes this opportunity of thanking Mr. Tregelles for having lent his original plans of Cornish stone circles for the purpose of making comparison.

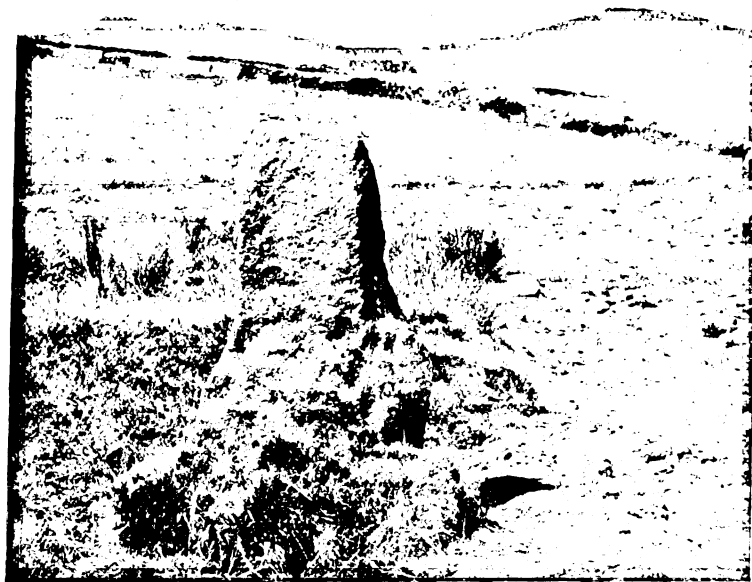


Fig. 1. Standing Stone IV., "Stripple Stones," taken from the S.W. before the excavation was made round it. In the middle distance Hawkstor Farm; on the right, Brown Willy; on the left, Rough Tor towering over Garrow Tor.



Fig. 2. Standing Stone X., "Stripple Stones;" height above encircling depression, 6.1 feet. The long, narrow flint flake was found here.



Fig. 3. Standing Stone XIII. and Prostrate Stone XI., "Stripple Stones," taken from the S.W. No. XIII. is the highest stone of the circle, viz. 6.9 feet above the encircling depression.



Fig. 4. The largest Standing-Stone (No. VI.) of the Fernacre Stone Circle, taken from the S., with Rough Tor in the background. (Height 4.4 feet.)

EXAMPLES OF STANDING STONES AT THE "STRIPPLE STONES" AND FERNACRE STONE CIRCLES, EAST CORNWALL.

The highest standing-stone, No. XIII., is 6·9 feet above the surrounding depression and about 5·9 feet above its tussock. (Plate II. fig. 3.) Standing-stone No. X. is the next highest, being on its N. face 6·1 feet above its depression and about 5·1 feet above its tussock. (Plate II. fig. 2.) Both lean considerably, No. XIII. towards the E., No. X. towards the S. No. VII. is the only stone fairly erect; it stands 5·9 feet above its depression and 4·75 feet above its tussock. Standing-stone IV. leans towards the S., its height being 4·8 feet above its depression, and about 3·8 feet above its tussock. (Plate II. fig. 1.) The relative position of the four standing-stones is seen in the photograph. (Plate IV. fig. 1).

The largest remaining prostrate stones of the *circle* are Nos. III. IX. and XV. each being about 10 feet long; No. IX. is the broadest. The longest remaining prostrate stone of the whole group is the central monolith,^a the maximum length (E.N.E. edge) being 12·2 feet.^b (Plate III. fig. 1.) The largest prostrate stone in the middle of Arbor Low is exactly 2 feet longer. Some of the Stripple Stones were found to be considerably overgrown with turf and gorse, and these growths were removed to a certain extent before the stones were indicated on the plan.^c

It was with some difficulty that the contouring was accomplished in the area enclosed by the modern stone wall, as a crop of corn was standing at the time.^d The area occupied by the stone circle is very uneven in places, and the vallum on the N. and N.W. and much of the interior space are overgrown with furze.

No isolated standing monoliths were noticed near the Stripple Stones.

4. THE EXCAVATIONS.

(A) General Remarks.

The excavations and surveying began in favourable weather on 22nd June,

^a Only two other Cornish circles have central monoliths, viz. Boscawen-tin, parish of Buryan, near Penzance, and the Nine Stones near Altarnun, East Cornwall. A trench was cut through the former circle in 1862 by the landowner, Miss Elizabeth Carne, but no relics were found. The circle of Winterbourne Bassett, 4 miles N. of Avebury, has a central prostrate stone (*Journal of the Anthropological Institute*, xx. 282).

^b Mr. Tregelles gives 13 feet 3 inches, a foot too much (*V. C. H. Cornwall*, i. 390).

^c On the inner slope of the vallum on the N., and, regarded from the centre of the circle, about 4 degrees E. of true N., a piece of granite may be seen measuring 1·5 foot in width and 0·75 foot in thickness; the E. side is at the present time 1·9 foot long, the W. side 2·2 feet. It has been fractured at the S. end; and it is quite possible that it may be portion of one of the stones of the circle. It is not marked on the plan.

^d On the outside of the walls a slight trench or ditch exists in both parts, about 7 or 8 feet wide.

1905, and continued until the evening of 4th July.^a Much wet weather was experienced during the second week, and it was with difficulty that the plan was finished. Seven men were employed. They included Tom Paul, foreman at the Glastonbury Lake Village excavations for many years.^b

Twenty-five distinct excavations, or cuttings, were made in various parts of the area included within the outer margin of the vallum, viz. eleven in connexion with the position of the stones; ten for the purpose of tracing the fosse; two cuttings through the vallum; and two other cuttings in the interior space. In addition, the cist in the cornfield was re-excavated, but no relics were found in it. (See Appendix I.) With regard to finds made at the Stripple Stones, the results have been far more unsatisfactory than in the case of the Arbor Low excavations, the only relics being three flint flakes with secondary chipping (see fig. 1), a burnt flint, portion of a radius probably of ox, and several pieces of wood in the silting of the ditch on the north.

Various opinions have been expressed as to whether any of the flint found in Cornwall is indigenous or not. Flint implements and flakes have been found plentifully in ancient sites in Cornwall, and the popular belief has been that flint is not native there, but was brought from S.E. Devon and the Blackdown Hills in Somerset. Those, however, who have read the Rev. D. Gath Whitley's paper in the *Journal of the Royal Institution of Cornwall*^c are probably ready to accept the statements which he has brought together with a view of settling a long disputed question. It is of course an acknowledged fact that flint in its raw state is scarce in Cornwall, but the supply was probably sufficient for the needs of prehistoric man, without the necessity of conducting an extensive trade with large flint-producing districts 50 miles or so distant.^d

It is quite probable, as Mr. A. L. Lewis has suggested to me, that the few flint flakes found at the Stripple Stones were brought from the banks of the

^a Mr. Henry Balfour (Secretary of the Stone Circles Committee, British Association) visited the excavations on 28th June; Mr. C. H. Read, F.S.A. (Chairman of the Committee), made two attempts to go down from London, but was prevented.

^b Our thanks are due to the Rev. E. Vernon Collins, Rector of Blisland, for advising as to the employment of local labourers and in a variety of other ways. It appears to me advisable to register the names of the workmen employed during these explorations, as such a record might prove to be of some little importance in the event of a further examination of the Stripple Stones in the future: Tom Paul of Glastonbury (foreman); Edwin Jane, senior and junior, of Hawkstor farm; Wm. Greenaway, senior and junior; John Greenaway; and another man (name unrecorded).

^c Vol. xv. 1902, 272-4.

^d See also A. L. Lewis's note, *Man*, 1907, 14.

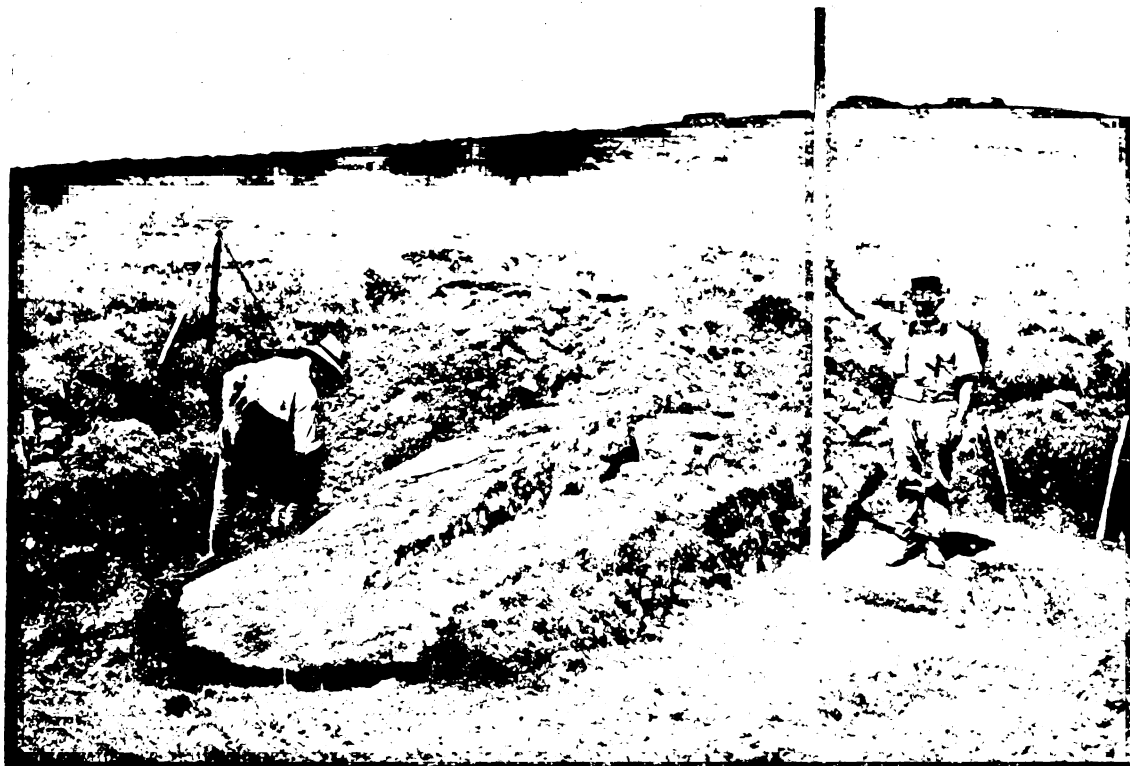


Fig. 1. View taken from the S.S.E. showing the excavations made round the central prostrate stone, with Hawk's Tor in the distance. The dark shadow in the foreground indicates the hole in which the monolith originally stood.

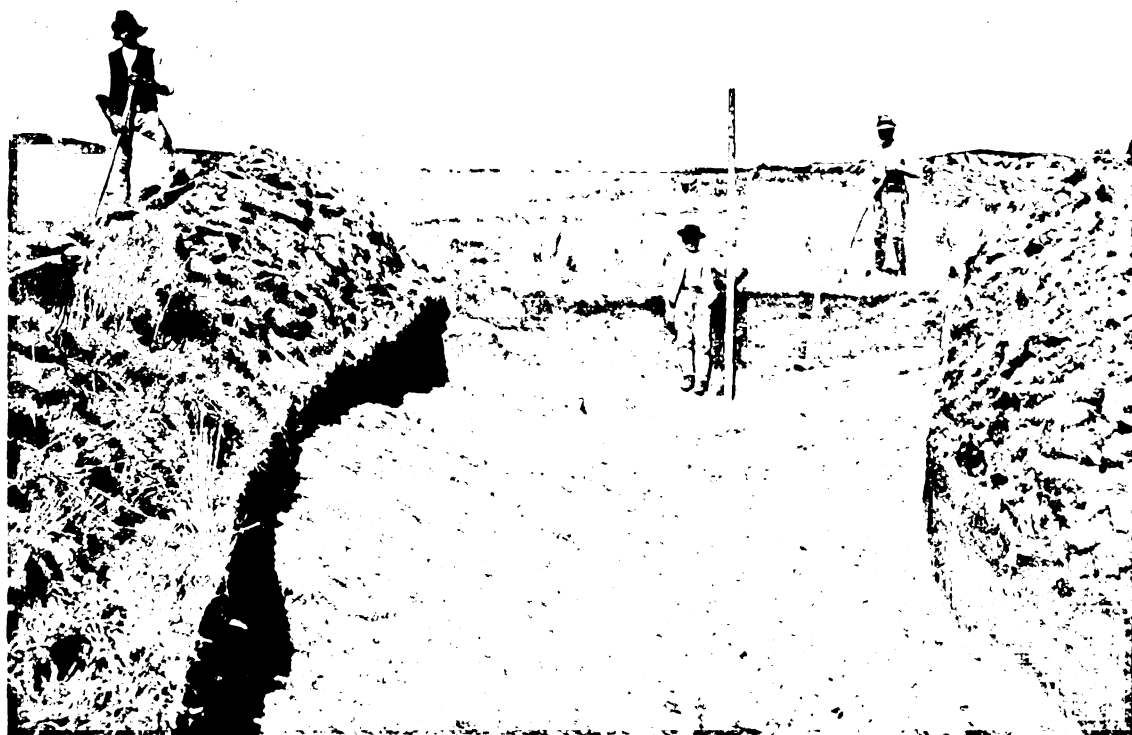


Fig. 2. View taken from the W. showing the bottom and sides of the re-excavated fosse on the N. side of the circle. The maximum depth from the surface of the silting was 3·4 feet.

EXCAVATIONS AT THE "STRIPPLE STONES," EAST CORNWALL.

Published by the Society of Antiquaries of London, 1908.

Dozmare, Dozmary, or Dozmar,^a Pool, the largest piece of water in Cornwall, at a distance of 3 miles to the E. of the Stripples Stones in a direction a little S. of E. Mr. Lewis has several flint flakes from Dozmare;^b and there are collections of them in Plymouth Museum^c and in the British Museum. Nos. 1 and 4 (the latter in particular)^d from the Stripples Stones (see fig. 1) bear a strong resemblance to those from Dozmare. It is interesting and important to note what Mr. John Brent, F.S.A., said in his paper on the historical associations of Dozmare Pool: "From time to time a number of little flakes of flint, worked and often curiously incised, have been found on the sand which partly forms the margin of the Pool. . . . Arrow-heads of flint, well defined, have also been discovered."^e

(B) Excavations round the Stones.

Central Stone No. I. (Plate III. fig. 1).—A full description of the position, character, and size of this stone will be found in Appendix II.; this remark applies to the other stones also. A rectangular area covering $53\frac{2}{3}$ square yards was excavated round this stone, the sides of the cutting measuring 28 feet from N.W. to S.E. by 21 feet from N.E. to S.W. To an average depth of 0.7 foot from the surface brown peat, very tough and fibrous, was found to extend. This corresponds with the peat of Dartmoor, locally known as "ven" or "fen." Below this a black peaty mould was dug through, thickness from 0.8 foot to 1.6 foot; in places it was mixed with large and small blocks of granite. Below this, at depths varying from 1.5 foot to 2.3 feet from the surface, a thin layer of bog iron-ore, or "pan," occurred, through which it was noticed roots did not penetrate. Immediately below this ferruginous deposit the subsoil was reached, consisting of a light-coloured compact sandy material derived from decomposed granite.^f The excavations were discontinued at this layer.

During these operations the following flints were discovered: At "1" on

^a *Journal of the British Archaeological Association*, xxxiii. 9. "Dozmary" occurs on the Ordnance Sheets.

^b Mr. Lewis obtained them from Mr. Francis Brent, F.S.A.

^c Bequeathed to the Plymouth Museum by Francis Brent, F.S.A. This collection contains at least one flint scraper. Many of the flakes are of very small size.

^d The colour of this specimen like others of a long narrow form from Dozmare is a milky-greyish brown.

^e *Journal of the British Archaeological Association*, xxxvii. 31. See also the Rev. H. G. O. Kendall's article in *Man*, 1906, 97. Mr. Kendall also found pigmy flints at Dozmare Pool, *Man*, 1907, 83.

^f A similar sub-soil to this is called "calm" by the Dartmoor Exploration Committee.

plan, at a depth of 1 foot, a flint flake, or knife, with prominent bulb of percussion and conchoidal fractures, was found; at "2" another flint flake, with secondary chipping and a well-defined bulb of percussion with an *écaillage* on it, depth 1·2 foot; and at "3" a small piece of calcined flint, depth 0·8 foot. Flakes Nos. 1 and 2 are figured in the accompanying illustration.

In four places in this excavation the hard layer of bog iron-ore was found to be deficient; digging was therefore continued to a greater depth, and four distinct but irregular holes were found as indicated on the plan (Plate I.), one on the S.W. of the stone and three on the E. and N.E. sides. (Seen in the photograph, Plate III. fig. 1.) The first hole "W" was of oval outline, 5·5 by 4 feet at the layer of bog iron-ore; the bottom was 3·5 feet below the surface of the turf. Holes "X," "Y," and "Z" were of irregular outline; "X" measured 4·5 by

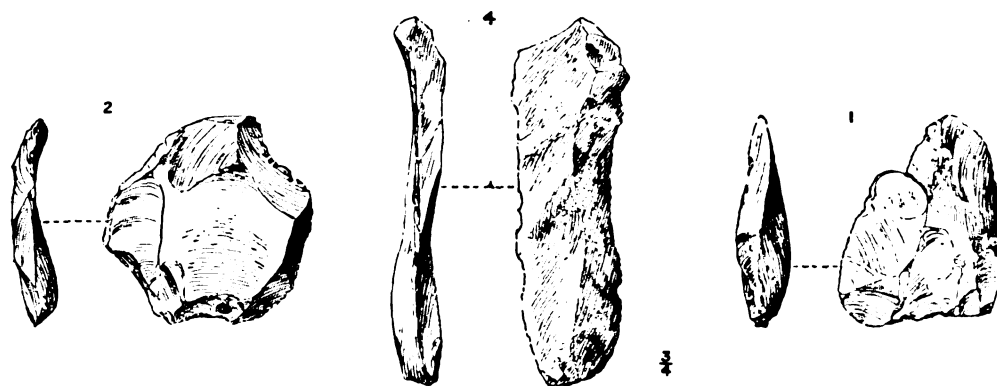


Fig. 1. Flint flakes with secondary chipping, each having a well-defined bulb of percussion. Found in the excavations at the Strippie Stones, East Cornwall. (The figures represent the numbers on the plan, Plate I., and in the text.)

2·7 feet at the ferruginous layer; "Y" 3·1 by 2·1 feet; and "Z" 4·5 by 3 feet. All were filled with peaty mould and pieces of granite; no relics were discovered in them, and their purpose is uncertain.

At the S.S.E. end of this large monolith a hole full of water was discovered; the stone extended a few inches further in a S.S.E. direction than the margin of the hole. The hole was found to be about 5 feet long (from W.S.W. to E.N.E.) and 2·8 feet wide. It is partly represented by the dark shadow in the photograph. (Plate III. fig. 1.) Satisfactory proof was obtained that the stone stood erect at one time on what is now its S.S.E. end, at some 14 feet to the S.S.E. of the true centre of the circle; moreover that the monolith in its fall in a N.N.W. direction had kicked out to the extent of about 1·5 foot, and covered the hole dug

for its reception. This excavation served to prove also that when the central stone was standing it (not the *centre* of the *circle*) was approximately in line with the middle of the entrance way and the Trippet Stones.

Towards the end of the time devoted to the excavations another plot of ground, 11 by 8·5 feet, was trenched over to the S.E. of the larger central area, in the hope of finding more flint implements or other relics, but we were unrewarded. The bog iron-ore was found here as a fairly even layer at an average depth of 1·4 foot from the surface.

Prostrate Stone No. II.—As there was no depression at the N.W. end of this stone indicating the position in which it might have stood, and as there was a depression at the S.E. we dug round this portion of the stone and partly under it. No hole was found in which the S.E. end of the stone could have stood, and as the other end is on the line of the true circle, there could be no doubt that it had fallen inwards in a S.E. direction. The layers of earth, etc. under the S.E. end of the stone were regular and not mixed as they would have been if a hole had been cut for the reception of the base of a monolith. The digging revealed the true thickness of the stone at the S.E. end to be 0·9 foot, and it appeared to be nowhere less than 0·7 foot thick, except just at the rounded base.

Prostrate Stone No. III.—This stone rested in a rather deep encircling depression; turf had grown considerably over the N. end; until it had been cut away it was not possible to make an accurate plan of the stone. An excavation was made round the N. point and end of the stone, and the hole in which it originally stood was easily traced; the bottom, in the undisturbed granitic sand, was reached at a depth of 3·5 feet from the general level of the surrounding turf and 2·4 feet from the surface of the monolith. From the excavation we ascertained that this slab averaged 0·75 foot in thickness. The point of the base in its fall appears to have kicked out towards the N. to the extent of 1·7 foot. The iron-ore layer was seen in its usual position on the sides of the hole.

The most interesting result of this excavation was the finding of fairly large blocks of granite in such positions as to clearly indicate that they were packed into the hole as wedges to support the pointed base of the stone (*cf.* Stonehenge). This feature was not observed elsewhere during the excavations. No relics were found here nor round Stones II. or IV.

Standing-stone IV. (Plate II. fig. 1).—As this stone leans towards the S. to the extent of about 15 degrees from the vertical, it was necessary to prop it up during the excavation with a stout pole. It was not left standing erect, but in the position we found it. A hole was dug all round the stone, which stood in a

depression. The bottom of the stone, which had a flat base, was reached at 1.1 foot below the depression, 2.1 feet below its surrounding tussock, and about 2.5 feet below the general turf level to the S.W. The maximum width of the stone, 2.7 feet, as it appeared above the tussock, was maintained to the base of the stone. Peaty mould extended to a depth of 0.4 foot below the depression, the remainder, 0.7 foot, to the bottom consisting of a sandy material derived from decomposed granite. There had been no attempt to pack the base with blocks of granite, only a few small pieces being found mixed with the soil, as in other parts of the circle. The size of the hole cut for the reception of the stone was not clearly defined. The total height of this monolith, including the portion sunk into the ground, proved to be 5.9 feet.

Between Stones VI. and VII. we made a small excavation 5 feet square, as shown on the plan, although the position was several feet outside the line of the circle. Before digging a marked depression was observed, and it was thought possible that a stone might have stood there. There was certainly a rough hole of artificial character here, but nothing was proved by the excavation. The iron-ore occurred at a depth of 1.6 foot from the surface. Approximately in this position Mr. Tregelles marks a buried stone in his plan, but the writer did not find it.

Standing-stone VII.—An oval area measuring 16 by 14 feet was trenched round this erect stone. The stability of the stone was not interfered with, as the hole in which it stood was not disturbed nor the tussock encircling it. This excavation was made in the endeavour to find relics round the stone, but nothing was revealed.

Standing-stone X. (Plate II. fig. 2).—With the same object in view an oval area 17 by 15 feet was trenched round this stone and up to Stone IX. now prostrate. As in the case of Stone VII. the hole in which it stood was not interfered with and the trenching was not carried to a greater depth than the layer of bog iron-ore. At "4" on plan, 5 feet S. of the stone and 0.9 foot beneath the surface, a long and narrow flint flake (fig. 1) (length 65.5 mm.) was found. It has a pronounced dorsal ridge and is of triangular cross-section; a small facet known as an *écaillage* exists on the bulb of percussion. The uncovering of the S.W. end of Stone IX. showed it to be thick, but we did not excavate to the bottom of it.

Prostrate Stone XI.—Excavations round this stone revealed no hole penetrating the subsoil, in which it could have stood. This negative evidence was what was wanted, as it will be seen by reference to the plan that the stone rests 5 or 6 feet to the S. of the place in which we should expect to find it, viz. on

the line of the true circle. This stone lies in a slight depression below which the iron-ore layer was reached at a depth of 0·9 foot. The digging showed that the stone was 0·8 foot in maximum thickness and that the S. end was quite flat. No relics were found here or near Stone XII.

Prostrate Stone XII.—Excavations were made round the N.N.E. of this stone to ascertain whether a pit existed on the line of the circle and whether the stone had fallen outwards. A distinct hole was discovered, it having been cut through the iron-ore floor reached at a depth of 1·1 foot from the depression in which the stone now rests. The hole was 2·5 feet deep below the field-level, and the base of the stone was found to partly cover it. No packing of granite blocks for the support of the stone was observed. It was found to be 1 foot thick at the base and 1·4 foot at the N.W. shoulder.

Standing-stone XIII. (Plate II. fig. 3).—An area, 20 feet square, was trenched down to the iron-ore layer round this large standing-stone. It was not disturbed and the tussock round it was left untouched. The only thing found here was portion of a radius probably of an ox in the S.E. corner of the excavation at a depth of 0·7 foot.

Prostrate Stone XIV. (Plate II. fig. 3).—An excavation was made at the S. end of this stone to ascertain whether a definite hole had been cut for the reception of the base. It was found that a hole had been made only sufficiently large for the base; the hole penetrated the layer of iron-ore, and its depth below the surface of the plateau (inside) was 3·1 feet; depth below the depression on the S.S.W. side 1·1 foot. The cutting revealed the true thickness of the stone at the base to be 2·9 feet. Here again we found nothing.

Hole on the N.W. of the Plateau.—Soon after our arrival a small hole or depression, maximum depth 1 foot from the surface level of the turf, attracted my attention, but a very hasty survey of the surroundings showed that it was considerably within the line of the true circle of stones, and that probably it did not mark the site from which a monolith had been removed. A rectangular area, 10 by 8 feet, was pegged off round this depression and carefully excavated. The iron-ore floor was reached at 1·3 foot from the surface in all parts except where the actual hole occurred. Above the iron-ore and between it and the 0·5 foot of brown peat was the usual peaty mould measuring 0·8 foot thick. At the iron-ore floor the hole was found to be roughly circular and 3·5 feet in diameter, from which the sides gradually tapered to almost a point at the bottom; total depth from the surface of the plateau 3·1 feet. No relics, or charcoal, or other substances were found; and the purpose of the little hole was not ascertained.

(c) Excavations through the Vallum.

Two cuttings, each 10 feet wide, were made through the vallum, both near the entrance on the W.S.W. (See Plan, Plate I.) The lower margin of the westerly cutting was about 15 feet from the middle of the entrance, and the excavation was made in continuation of Cutting 2 through the fosse. The upper margin of the S.W. cutting was about 26 feet from the middle of the entrance, and the excavation was made in continuation of Cutting 5, through the supposed position of the fosse in this part of the earthwork. As in the case of the vallum-cuttings at Arbor Low,^a the two cuttings here yielded no relics on the old surface line or elsewhere, and time did not permit of a third cutting being made.

Cutting 2.—The old surface line under the rampart could not be very distinctly traced, but its depth from the crest varied from 1·3 to 1·6 foot. (See *Sectional Diagram*, fig. 4.) The rampart was made up to some extent by blocks of granite mixed with black earth.

Cutting 5.—The "old surface line" was traced with some difficulty at a depth of 1·5 foot below the crest of the rampart. The upper 6 inches, as elsewhere, consisted of peaty turf and black mould, below which the earth, mixed with some granite stones, became of a more ferruginous nature.

- (d) Excavations into the Northern Fosse, and Cuttings made in the endeavour to ascertain whether a Fosse had existed in the Southern part of the Circle.

Twelve cuttings were made of various dimensions, three being on the N. and W. in places where the existence of a fosse within the vallum was clearly observable, and nine smaller cuttings made from the W.S.W. to the E.N.E. in positions within the vallum in which a cut ditch would be found if any had existed from the days of the construction of the circle. Much time was spent in this department of the excavations, but no objects of antiquity (except a few pieces of wood) were found in any of the cuttings connected with the fosse. Firstly we will deal with Cuttings 1 to 3, from the N. to the W.S.W., where the existence of an ancient ditch was a certainty. (See the contours on the plan.)

Cutting 1 (Plate III. fig. 2).—By far the largest excavation made at the Stripples Stones was 88½ feet^b of fosse on the N. and N.W. As previously stated, the maximum height of the vallum in this part above the silting of the fosse is

^a *Archaeologia*, lviii. 477-8.

^b Measured along the bottom of the ditch.

3 feet, while the nearest part of the central area occupied by the monoliths is 1·5 foot higher than the middle of the silting. This part of the ditch, we were told, was generally full of water during wet weather, and it was not entirely dry during the time of the excavations. We began digging at the W. end of the area selected, where the margin of the fosse was found to be about 9·5 feet wide, and the depth of the silting 2·45 feet in the middle,^a of which 1·8 foot consisted of turf, peat, and mould. Below this the silting was composed of rather fine granitic sand, which had doubtless been washed down from the sides of the ditch when it had been open to the bottom. For 20 feet or so no great change was found in the character or depth of the fosse; a section was taken at C. D. on plan (*see accompanying diagram*) which gave a width of 9 feet at the top of the ditch and 1·1 foot at the bottom, with a depth of 2·2 feet. In no part of the ditch were the sides steeper than here. As the work continued it was found that the average width at the top

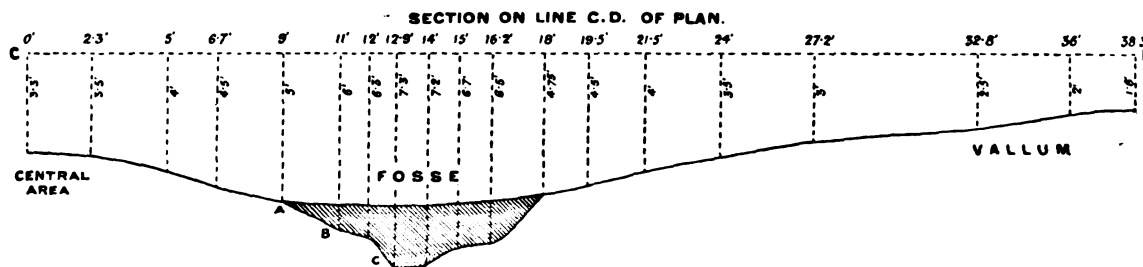


Fig. 2. Stripples Stones, East Cornwall. Sectional diagram of northern fosse and vallum. The filling of the fosse consisted of (A) peaty turf and mould, (B) black earth mixed with roots and a little sand, and (C) sand washed down from the sides of the fosse.

was 9·5 feet for three-quarters of the length of the cutting; but at the E. end it gradually expanded to a maximum width of 16 feet.^b (See sectional diagram on line E. F. of plan, fig. 3.) The bottom of the fosse in the E. half of the cutting was not clearly defined; indeed, in most parts, the bottom presented a concave surface in a continuous curve with the sides of the fosse. As will be seen by one of the photographs of this excavation (Plate III. fig. 2), the slope of the sides of the fosse was very slight, and it became evident that the constructors paid little, if any, attention to symmetry or design. A portion of the N. margin of this fosse is marked on the plan by a dotted line at the point where one of the "bays" in the

^a Depth from the "central area" adjacent 4 feet.

^b Owing to the nature of the material in which the fosse had been cut it was found very difficult to determine even the approximate width of the original fosse at the eastern end of this cutting.

ditch occurs; but it is uncertain whether the excavation here should not have been continued further N. to find the true margin of the fosse, which possibly followed the "bay" to a greater extent than the plan indicates. The photographs ^a of this part show a steeper side to the fosse on the S. than on the N.; but on the other hand, although the N. side is generally flatter, yet projections and irregular lumps of the *undisturbed* granitic sand occurred which indicated a general rise on the N. side. Partly on this account we did not pursue the excavation of this portion of the fosse further in a northerly direction; and moreover the weather molested us, time pressed, and the refilling of this large ditch cutting had to be accomplished in a short space of time. On the extreme E. of the cutting the cut bottom of the fosse began to show itself again, as seen in the sectional diagram on the line E. F. of plan. Here the fosse reached its greatest depth, viz. 3·4 feet below the surface of

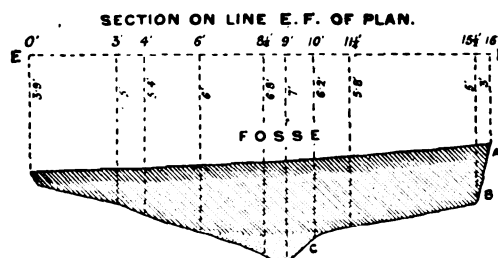


Fig. 3. Striple Stones, East Cornwall. Sectional diagram of the north fosse at the point where it was found to be deepest. (For references to soils see title of fig. 2.)

the silting and 4·4 feet below the general level of the central plateau near Stones II. and III. The filling at this end of the cutting consisted of peaty-turf 0·5 foot, followed by black earth mixed with roots and a little sand for a depth of 2 feet; at the bottom, granitic sand washed down from the sides, or profile, of the fosse. From the black material to the very light whitish-grey sand there was a gradual blending.

In the silting of the fosse of Cutting 1, and in the N.E. half, nearly a dozen pieces (mostly small) of dark wood were found in a saturated condition, just above the granitic sand silting, in the black earth mixed with roots, and at an average depth of 2·3 feet from the surface. Three typical pieces were sent to Mr. Clement Reid, F.R.S., for microscopical examination. They turn out to be oak; some bear traces of rough cutting, but it is difficult, if not impossible, to say definitely whether

^a The photographs used to illustrate this paper were taken by Mr. and Mrs. St. G. Gray.

any of the cuts or hacks were made before the wood became deposited in the silting. All the pieces are rough with no symmetrical shaping, but one or two of them now appear so very smooth that it is probable that they represent fragments of oak worked by early man.

The greater part of the sides of the lower portions of the re-excavated fosse was thinly covered with iron-pan. It had probably all become deposited from natural causes since the time the fosse was allowed to silt up. As before stated, the lower portion of the silting was caused by denudation. The oxide of iron contained in this granitic sand, or decomposed granite, was taken up by water constantly filtering through the silting, and, being arrested by an almost impervious stratum of the compact decomposed granite forming the walls and bottom of the fosse, became deposited, but very slowly, as a thin layer of the hard ferruginous substance known as iron-pan. Mr. Clement Reid kindly examined a sample of the sand derived from this fosse, and he reported as follows: "Sandy material derived from the decomposed granite; it consists mainly of angular

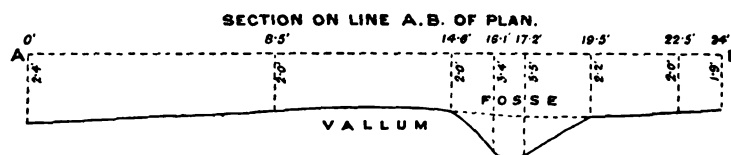


Fig. 4. Striple Stones, East Cornwall. Sectional diagram of the slight western fosse and vallum.

quartz, with a smaller amount of finer-grained decayed felspar and white mica. It does not seem to be waterworn, and has probably been moved only a short distance; but much of the felspar and mica has been washed away, leaving the more durable quartz."

Cutting 2.—This cutting through the fosse was made a little to the N. of the entrance on the W.S.W. It was 10 feet wide, and in continuation of a cutting through the vallum (already described). As will be seen by the plan and the sectional diagram on line A. B., a slight ditch was found, the maximum depth from the surface of the silting being 1.4 foot in the centre. The bottom was cut in a rounded form into the decomposed granite sub-soil. The iron-pan deposit was reached on the sides of the ditch at a depth of 0.8 foot from the surface, so that the ditch was cut into the sub-soil only to the extent of 0.6 foot. At the iron-ore layer the ditch measured from $2\frac{3}{4}$ to 3 feet in width; at the surface it averaged 4.8 feet.

Cutting 3.—The excavation of the fosse was continued from Cutting 2 in the

direction of the entrance to the circle. At the end of the vallum the ditch was found to make a slight bend outwards in a S.W. direction; and instead of terminating abruptly in a rounded end as most ditches do in such positions, it became shallower as we proceeded and the sides much less steep; at 14 feet from Cutting 2 it died away entirely and could not be traced further, as shown on the plan. There were slight indications on the surface of a little muddy gutter or runnel continuing from this point in a S.W. direction, and no doubt in winter time when the deeper ditch on the north (Cutting 1) becomes full of water it drains off in the direction indicated.

From the entrance on the W. to the modern stone wall on the E. no trace of a fosse within the small rampart was observable on the surface in the southern half of the circle, and in order to ascertain whether a ditch originally existed in these parts seven distinct cuttings, mostly of small size, were made in the hope of settling the problem. No hollow or depression was observable immediately within the margin of the vallum except near Stone XVII. for a distance of about 50 feet, as shown by the contours. We will proceed to deal with each cutting separately in the order in which they are numbered on the plan. No relics were found in any of these diggings.

Cutting 4.—This excavation was 25 feet in length, and it differed from Cuttings 5 to 10 inasmuch as the more or less even and regular layer of bog iron-ore had been penetrated^a by the constructors of the circle. Although the ditch in Cutting 3 terminated at the entrance in such a peculiar manner, the end of the little ditch on the other side of the entrance exhibited a normal outline, having a rounded end such as we expected to find on the N. side of the entrance. By the excavation of Cuttings 3 and 4 we proved that the width of the entrance between these two ditches was only 9 feet. The N. end of Cutting 4 was in line with the rounded end of the vallum at the S. of the entrance. The existence of a small fosse was traced in the N.W. half of this cutting, but it was very indefinite at the S.S.E. end. In the N.W. half the little scarp was found to be steeper than the counterscarp, and the depth of the ditch was 1·7 foot from the surface of the filling. The average width of the N.W. half was 2·5 feet at the bottom of the fosse, 4 feet at the iron-ore layer, and 6 feet at the surface. The silting consisted of 0·5 foot of peaty-turf, 0·7 foot of black mould, and 0·5 foot of dark brown mould at the bottom.

Towards the S.S.E. of this cutting the ditch was shallow, and although

^a The iron-ore had been penetrated here and 2 or 3 inches of the material beneath it.

hollows (sometimes 0·25 foot deep) were observed in places in the iron-ore layer, it had not been penetrated here as at the N.W. end of the cutting.

Cutting 5.—This cutting, made for the same purpose of endeavouring to trace a fosse, was excavated in continuation of the vallum-cutting (10 feet wide) bearing the same number. The remarks on the S. portion of Cutting 4 apply equally to this cutting.

Cutting 6.—A small cutting measuring 6 by $3\frac{1}{4}$ feet was made close up to Cutting 5. Here again the bog iron-ore was found as a hard floor which probably existed as a thinner layer when the circle was constructed. The iron-ore was not perfectly flat, the depth from the surface in this cutting varying from 1·8 to 1·95 foot. In this and the under-mentioned cuttings the bog iron-ore, or cellular limonite, was sometimes fully half an inch in thickness, and exhibited bulbous projections or knobs on the upper surface; as would be expected, roots of grass, etc. had not penetrated it but formed a tangled compressed mass.*

Cutting 7.—A similar cutting on the S.W., measuring 5·7 by 4 feet. Iron-ore layer reached at a depth of 1·9 foot from the surface.

Cutting 8.—Another, 7 by 3·5 feet. Iron-ore depth 1·9 foot from the surface.

Cutting 9.—A similar cutting made on the S. in the endeavour to trace a ditch; dimensions 6 by 4 feet. The iron-ore floor was found at an average depth of 1·5 foot here.

Cutting 10.—The last cutting, 9 by 3·5 feet, made for the same purpose with the same results. Iron-ore deposit at an average depth of 1·6 foot from the surface.

Cuttings 11 and 12.—In the cornfield on the E. the plough had almost obliterated all traces of the vallum. Two cuttings (Nos. 11 and 12) were made, $5\frac{1}{2}$ by 4 feet and $13\frac{1}{2}$ by 4 feet respectively, one on each side of a slight depression in the field, and about in the position in which the eastern demi-lune was situated. The result was disappointing, no relics were discovered, and no trace of a ditch was found, the iron-ore being reached at an average depth of 1·5 foot below the surface.

* Mr. Clement Reid, F.R.S., informs me that if bog iron-ore is broken up on arable land by deep ploughing it may spoil the land for agricultural purposes for many years. He also tells me that it is usually deposited on slight slopes.

5. SUMMARY AND CONCLUSIONS.

The Stones.—From eleven cuttings and excavations made in the immediate vicinity of four standing and seven recumbent stones and from other evidence the following conclusions may be established.

(1) That all the monoliths (originally probably 28 in number) formed a circle $146\frac{1}{2}$ feet in diameter and stood upright about $16\frac{1}{2}$ feet apart.

(2) That two recumbent stones have disappeared since 1879 when Lukis made his plan.

(3) That Stone XVI., now almost prostrate, probably leaned to no very great extent in 1879 when Lukis classified it as a standing-stone.

(4) That Stone VII. is a little outside the line of the true circle, and that Stone XI. has probably been moved a few feet southward since its fall.

(5) That the central Stone No. 1 originally stood excentrically on what is now its S.S.E. end.

(6) That it is uncertain what the original positions of Stones VIII. XVII. and XVIII. were, and whether Stone V. belongs to the circle.

(7) That the recumbent Stones Nos. III. XII. XIV. and the Standing-stone No. IV. stood in holes cut for their reception, the average depth of the holes being 2.9 feet from the present surface.

(8) That evidence was obtained that one stone (No. III.), with a pointed base, was partly supported by a packing of rough blocks of granite.

It is surprising that even four stones remain standing (No. VII. still being vertical), considering the nature of the surface deposits and the sub-soil.

The Vallum and Fosse.—The crest of the vallum, which is 224 feet in diameter, was probably intended to be concentric with the true line of the stone circle; it was found, however, to deviate to an inconsiderable extent. As previously stated, no relics were found in the cuttings made through the vallum, and in this department of the excavations, as at Arbor Low,^a no interesting deductions could be made.

The fosse from the N.E. to the W. was clearly defined on the surface before the excavations were undertaken, but from the W.S.W. entrance to the stone wall on the E.S.E. there was absolutely nothing superficial to suggest that a fosse ever existed.^b The excavation revealed a broad but irregular ditch on the

^a *Archaeologia*, lviii. 477-8.

^b Except a slight hollow in contiguity to Cutting 10 and Stone XVII.

N. and N.W. which averaged 2·9 feet in depth from the surface of the silting and 4·2 feet below the nearest part of the central plateau. (Plate III. fig. 2.) At Cutting 2 a fosse was found in much diminished proportions, and at the entrance it did not penetrate the sub-soil but terminated in the manner shown on the plan, Plate I. A slight ditch was found to begin in line with the end of the rampart on the S. side of the entrance, but it could not be traced for many yards to the S.E. and in the next cutting, No. 4, and in the trial cuttings to the S.E. and E. the bog iron-ore was found as a solid floor at an average depth of 1·7 foot from the surface.

Vallums and fosses seldom surround stone circles, but occasionally one or both are found, and very rarely the fosse is situated inside the vallum, as at the Stripple Stones. Unless these ramparts and ditches are of great strength, their existence does not suggest protection against predatory animals or unfriendly tribes, any more than a wall round a field, or an iron fence round a cemetery, would. Whatever the original purposes for such ditches and ramparts were, my opinion with regard to the N. fosse of the Stripple Stones is that it was intended to serve a practical and very necessary purpose as a means of drainage. The position is a very wet one, with moisture constantly flowing (the pace being regulated by the weather) from the higher ground comprising the southern slope of Hawk's Tor. The peaty ground and surface soil in this place do not require a large amount of rain to render them very boggy; and owing to the presence of iron-ore at a slight depth, moisture remains near the surface for a considerable time. It would be very necessary to keep the central plateau tolerably dry, and such a ditch as that on the north, with its outlet at the entrance to the circle, would drain off most of the water derived from the higher ground, which would otherwise swamp the circle to a very uncomfortable extent in wet weather. If this were the purpose of the northern fosse we should not look for a ditch of similar dimensions in the S. half of the circle. Regarded from this point of view we get an explanation why no ditch penetrated the sub-soil in the S. half of the circle, and if a fosse existed there at all it was very shallow, with perhaps the iron-ore layer as its bottom.* A small drain would be amply sufficient, for, as shown by the contours on the plan, the ground representing the central plateau only falls from N. to S. to a maximum extent of $2\frac{3}{4}$ feet; so that most of the moisture moving S.

* As before stated, the original excavation penetrated the iron-ore at the N. end of Cutting 4. Perhaps this was done by those who made use of the circle to ensure the entrance-way being kept dry.

very slowly would evaporate before reaching the suggested small southern fosse or drain.

These remarks are offered merely as a suggestion in the endeavour to explain the difficulties presented by the irregularity and character of the fosse.

Relics and Date.—The few relics discovered at the Stripples Stones give no certain evidence of date; and even if any of them presented characteristics of a definite period, the position in which they were found would render them comparatively worthless as proof of date. The existence of flint flakes to the exclusion of metals does not necessarily establish an early date for the Stripples Stones, even if they had been found on the old surface line under the vallum, or deep in the fosse; and yet, considering the amount of digging done (25 cuttings, large and small) the total absence of bronze should have some significance. The evidence of date resulting from the excavations at the Arbor Low stone circle and at Stonehenge was strong enough to satisfy the most precise antiquary, but there is no direct evidence in the present case. It is only from negative evidence that we are in any way justified in suggesting a late Neolithic or early Bronze Age date for the Stripples Stones. If we were positive that these flint flakes (see p. 11) were struck on the banks of Dozmare Pool, where similar flakes are found in association with flint arrow-heads, then the flakes found at the Stripples Stones might perhaps be dated with some degree of accuracy. None of the flakes was found nearer the present surface than 0·8 foot, and it is highly probable that this dimension represents the approximate thickness of the peat which has accumulated since the disuse of the circle. Therefore we are probably safe in regarding the three flakes and the calcined flint as having been dropped round about Stones I. and X. during an early prehistoric state of culture of uncertain age.

Sepulture was apparently not the object of the circle, or we should probably have found human remains in the central excavation. The same remark applies to Arbor Low. In Scotland many of the stone circles excavated have proved to be primarily sepulchral, but in England no *ancient* burials are recorded to have been discovered in stone circles,^a with perhaps the exception of the little Duloe circle, before mentioned.

On 24th September, 1906, the writer visited the Stripples Stones on the occasion of his second visit to Bodmin Moors, and found that the turf relaid over the 1905 excavations had grown most satisfactorily, and in some places it was difficult to trace the outlines of the diggings.

^a Professor Gowland did not excavate ground in the centre of Stonehenge.



Fig. 1. General view of the position of the "Stripple Stones," taken from the N.N.E. The four remaining standing stones are seen, and the wall which has cut off the circle on the E. side. In the foreground silting thrown out from the fosse.



Fig. 2. The "Trippet Stones," Manor Downs, Blisland, taken from the N.E.; showing the eight remaining standing stones and the central boundary stone.

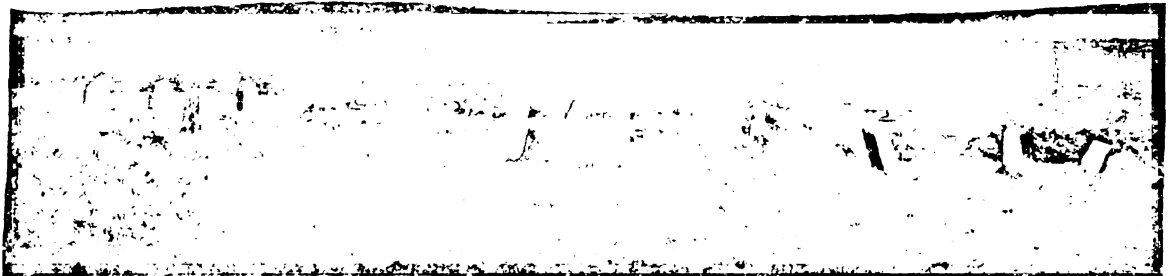


Fig. 3. The Leaze Stone Circle, parish of St. Breward, taken from the W.N.W.; showing the ten remaining standing stones and the modern bank which traverses the circle.

THE "STRIPPLE STONES," "TRIPPET STONES," AND THE LEAZE STONE CIRCLE, EAST CORNWALL.

Published by the Society of Antiquaries of London, 1908.

III.—THE “TRIPPET STONES” CIRCLE.

(Plan, fig. 5, and Plate IV. fig. 2.)

1. THE POSITION OF THE CIRCLE.

The circle known as the “Trippet Stones” is situated on the Manor Downs

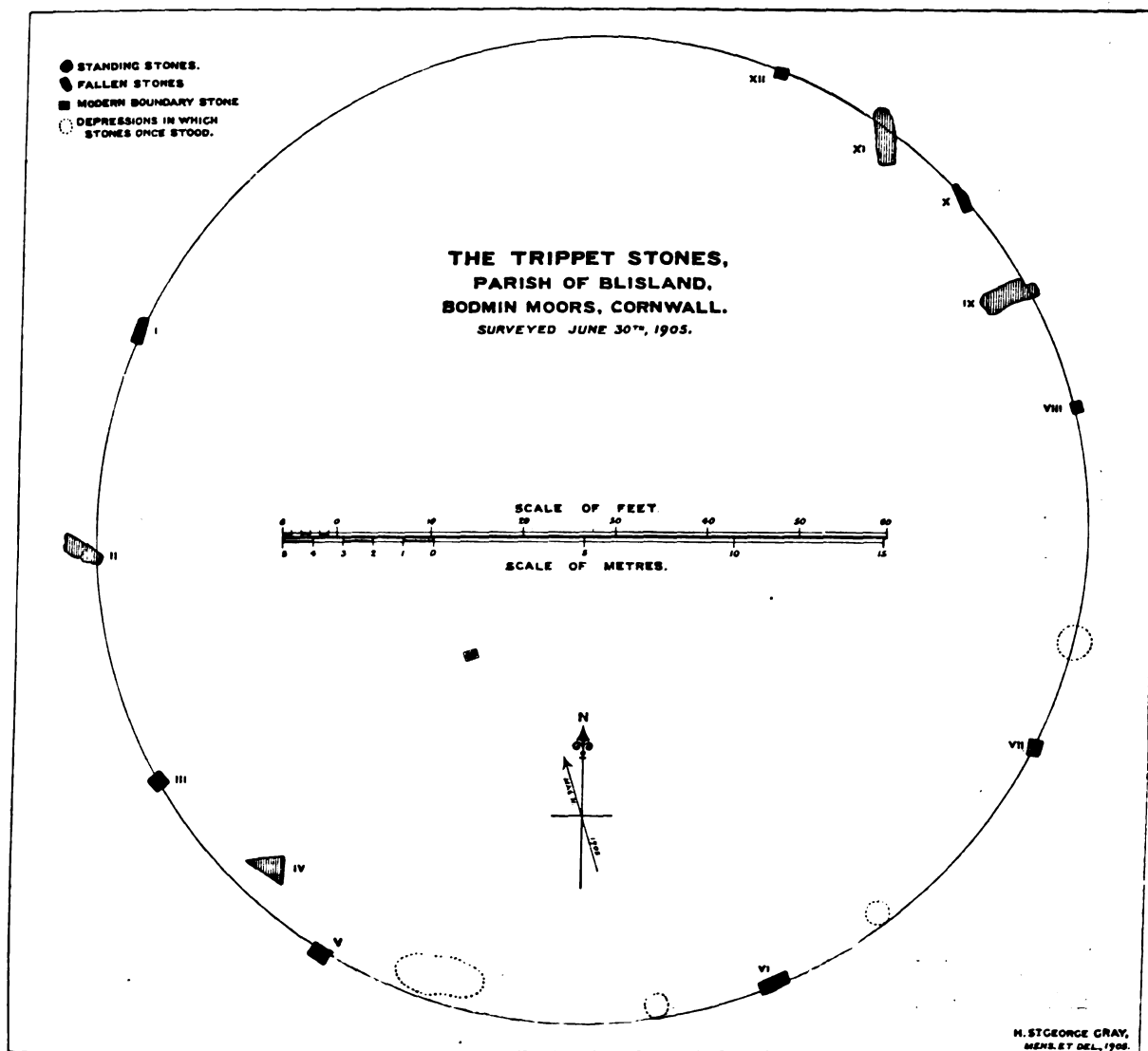


Fig. 5. Plan of the Trippet Stones, Cornwall.

division of the Bodmin Moors, 4,175 feet (over $\frac{3}{4}$ mile), according to the Ordnance Sheet, in a bee line W.S.W. of the centre of the Stripple Stones, and 7,700 feet

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(rather less than $1\frac{1}{2}$ mile) S.S.W. of the centre of the Leaze circle. The Trippet Stones are about 16,350 feet S.S.E. from the Stannon circle, 16,810 feet S.S.W. from the Fernacre circle, and 8,740 feet a little E. of S. from King Arthur's Hall.^a The monument stands in the parish of Blisland,^b the village being $2\frac{1}{4}$ miles to the S.W. From Bodmin the circle is $6\frac{1}{2}$ miles, as the crow flies, in a N.E. direction; the nearest point to the sea (Port Isaac Bay) is barely 8 miles. A line connecting the Trippet Stones with the summit of Rough Tor passes through the Leaze circle at a distance of less than $1\frac{1}{2}$ mile, leaving the Fernacre circle 550 feet to the E. of the line.

The Trippet Stones are about 799 feet above the mean sea-level, and the moor in this part is almost level, the area occupied by the plan (about $\frac{1}{3}$ of an acre) falling from N. to S. only to the extent of about 2 feet. At the present day the circle forms a more conspicuous landmark, viewed from the neighbouring country, than the more mutilated Stripple Stones. The nearest height to the Trippet Stones is Carbilly Tor, the summit of which is 2,320 feet to the N.W. of the circle and 872 feet above sea-level. There is a small farm called "Hawkstor Cottage" 1,000 feet E.S.E. of the circle.

Enclosed within the area of the circle, and to the S.W. of the centre, is a small boundary-stone of oblong section, 12 by 7 inches, and 2·7 feet high. On the N.N.W. face it is inscribed with the initial C (Collins); on the S.S.E. face M (Molesworth).

2. OUTLYING MONOLITHS PERHAPS MODERN BOUNDARY-STONES.

Between the circle and Carbilly Tor there is a narrow standing-stone^c of oblong section (sides 1·4 and 1·1 foot) tapering a little towards the top.^d The line connecting the N.E. corner of the boundary-stone within the circle with this outlier is $38\frac{1}{2}$ degrees W. of true N. This monolith stands 4·9 feet above the surrounding depression and 3·7 feet above its encircling tussock.

There is another standing monolith^e of the same character 1,550 feet to the

^a *Journal of the Anthropological Institute*, xxv. pl. i.; *Journal of the Royal Institution of Cornwall*, xiii. pl. viii.; *V. C. H. Cornwall*, i. 393.

^b The owner is Mrs. Collins, of Blisland Manor House.

^c Mr. Lewis mentions another stone in a N.W. direction from the circle which we failed to observe, *Journal of the Anthropological Institute*, xxv. 8. It is probably missing at the present time.

^d Longest sides E.N.E. and W.S.W.

^e This can be rocked backward and forward in its hole.

S.W. of the circle, and at the E. corner of the walls surrounding Treswigger farm. A third stands 530 feet to the S.E. of the last-mentioned and 1,680 feet S.S.W. of the centre of the circle; modern drill-holes are seen along one of its edges.

3. DIRECTION OF HILLS AND OTHER CIRCLES IN THE VICINITY OF THE TRIPPET STONES.^a

The Stripple Stones are visible 11 degrees N. of E.

Fernacre circle, $14\frac{1}{2}$ degrees E. of N.

Stannon circle, $6\frac{3}{4}$ degrees W. of N.

Top of Rough Tor and the Leaze circle (in the same line) are $12\frac{1}{2}$ degrees E. of N.

Brown Willy, $27\frac{1}{2}$ degrees E. from N.

Hawk's Tor, 32 degrees N. of E.

The "Cheesewring" on Carbilly Tor, $56\frac{1}{2}$ degrees W. of N.

4. DESCRIPTION OF THE CIRCLE.

(Notes taken from my own Survey.)^b

As in the case of the Leaze circle and the Stripple Stones the stones of the Trippet circle were arranged in the form of a true circle, and in this respect, among others, they differ from those of the Stannon and Fernacre circles.

The Trippet Stones (Plate IV. fig. 2) consist of eight^c standing^d (Nos. I. III. V. VI. VII. VIII. X. and XII.) and four prostrate (Nos. II. IV. IX. and XI.) monoliths. The N.E. portion (Stones VIII. to XII.) is the most complete part remaining, from which it can be estimated that twenty-six stones forming the

^a See also "Stone Circles of Britain," *Archæological Journal*, xlix. 148-9.

^b A sketch plan of this circle, by Lukis and Borlase, 1879, together with plans and elevations of the stones, will be found in *Prehistoric Stone Monuments of Cornwall*, pl. vii. There is a more recent plan by Mr. G. F. Tregelles, 1902, in *V. C. H. Cornwall*, i. plate facing p. 390.

^c There were nine standing when Lukis made his plan in 1879, including No. II. of my plan, now prostrate. Maclean (*History of Trigg Minor*, i. 24) records nine standing-stones. When Mr. Lewis visited the circle in 1891 only eight stones stood, as in 1905. Whereas Lukis gives twelve stones in all in 1879, it should be noted that Maclean mentions thirteen, nine erect and four prostrate. J. T. Blight in his *Ancient Crosses of East Cornwall* (1858), 131, states that "nine stones stood erect."

^d The stability of these stones is greatly imperilled by the treading of cattle.

circle originally stood at an average distance of $12\frac{3}{4}$ feet^a apart.^b On the W. and N.W. a large segment of the circle is now unrepresented by a stone or a depression in which a monolith stood.^c Three depressions, from which stones have been removed, probably within recent decades, are seen from the S. to the E. and a large hole remains on the S.W. The circle depicted on the plan (fig. 5) through the centre of the standing-stones clearly shows that the diameter of the circle was 108 feet.^d

All the stones are of granite, and are larger than the average in Cornish stone circles. (Details in Appendix III.) They are of quadrangular section, varying in width from $1\frac{1}{2}$ to $3\frac{1}{2}$ feet, and in thickness from $1\frac{1}{3}$ to 2 feet. The highest standing-stones (Nos. III. VII. and XII.) average 5 feet high above the depression worn round them; whilst all stand at least 4.4 feet above the level of the moor. Judging from the recumbent stones, it may safely be assumed that the stones were sunk into the ground to the extent of from $1\frac{1}{4}$ to $1\frac{1}{2}$ foot. Of the prostrate stones, No. II. fell outwards and No. IX. inwards. No. XI. also fell inwards, but "kicked out" to a greater extent than the others, probably covering its hole entirely in its fall. Only Nos I. and VIII. can be said to stand vertically at the present time. No. XII. deviates from the perpendicular more than any of the others; towards the S.S.W. it leans probably to the extent of 40 degrees. Although No. IV. is in the same position as it was in 1879, Lukis appears to have regarded it as the stump of a standing-stone, the upper portions being broken off and removed. In this assumption he was most probably incorrect, and Stone IV. must be regarded as the recumbent portion of a stone thrown inwards out of its proper position in the true circle at some time when the circle was pillaged; moreover the S.W. edge exhibits modern drill-holes.

The writer made a second visit to the Trippet Stones on 24th September, 1906,

^a Measurements from centre to centre.

^b Lukis gives 12 feet as the average interval between the stones, but probably he made his measurements from the edge of one stone to the nearest of the next.

^c If there was originally no gap in the circle, five stones probably belonged to this segment; but if they were equidistant from centre to centre they must have been at least $13\frac{1}{2}$ feet apart.

^d Sir John Maclean was correct in giving 108 feet as the diameter of the circle (*History of Trigg Minor*, 1873, i. 24). Mr. Lewis gives $104\frac{1}{2}$ feet (*Journal of the Anthropological Institute*, xxv. 8, and *Journal of the Royal Institution of Cornwall*, xiii. 109); the Rev. W. C. Lukis gives the same dimensions as Mr. Lewis (*Prehistoric Stone Monuments of Cornwall*, 3). The diameter of this circle (viz. 108 feet) is the same as Mr. C. W. Dymond gives for the southern of the three circles known as "The Hurlers," north of Liskeard. In *V. C. H. Cornwall*, i. 389, Mr. Tregelles states that the circle is only 103 feet in diameter, but his own plan shows it to be 107 feet (according to the circle dotted on the drawing).

and found the circle in the same condition as in June, 1905. On the last visit the circle was photographed from the N.E. (Plate IV. fig. 2.) In April, 1907, this circle was visited by Sir Norman Lockyer, who found that the alignment of Arcturus on Rough Tor from this circle gives about B.C. 1700 as the age of the Trippet Stones.^a

IV.—THE LEAZE STONE CIRCLE.

(Plan, fig. 6, and Plate IV. fig. 3.)

1. THE POSITION OF THE CIRCLE.

The Leaze stone circle is so named from the farm on which it is situated. The farm buildings (now in a state of ruin, the cottage still being occupied temporarily) are at a distance of 600 yards to the S.W. The circle is not easily found; and, excluding Leaze farm, there are only three modern domiciles within a mile of it. The De Lank river, which divides the parishes of Blisland and St. Breward, is less than a quarter of a mile to the E. and S.E. The circle is in the parish of St. Breward,^b the church and village being at a distance of $2\frac{1}{2}$ miles due W.; whereas the Stripple and Trippet Stones are in Blisland parish. The Leaze circle is situated rather less than $1\frac{1}{2}$ mile (7,700 feet) to the N.N.E. of the Trippet Stones, and rather less than $1\frac{1}{2}$ mile (7,230 feet) to the N.N.W. of the Stripple Stones. King Arthur's Hall is just $\frac{1}{2}$ mile to the N.W.^c

The Leaze circle is about 825 feet above sea-level (much about the same as the Trippet Stones). The ground within the area of the plan (less than $\frac{1}{4}$ acre) slopes somewhat from N. to S. Hawk's Tor falls on the line connecting the Stripple Stones with the Leaze circle, whilst the summit of Carkey's Tor (900 feet above sea-level) falls to the W. of this line by some 400 feet. In a bee line from the Leaze circle the summit of Butter's Tor (1,037 feet above sea) is 7,175 feet in an E.N.E. direction; Garrow Tor (1,087 feet above sea) is 5,080 feet in a N.E. direction; the Fernacre circle 9,200 feet in a N.N.E. direc-

^a *Nature*, 21st November, 1907, 57.

^b Mr. Reynolds of St. Breward is the landowner.

^c Although Maclean mentions and describes Arthur's Hall under the parish of St. Breward, he does not seem to have known the Leaze circle. (*History of Trigg Minor*, i. 352.)

tion; and the Stannon circle 9,550 feet in a N.N.W. direction. The Leaze circle is not visible from the four other circles.

There are hut-circles and barrows in close proximity, and to the W. is an

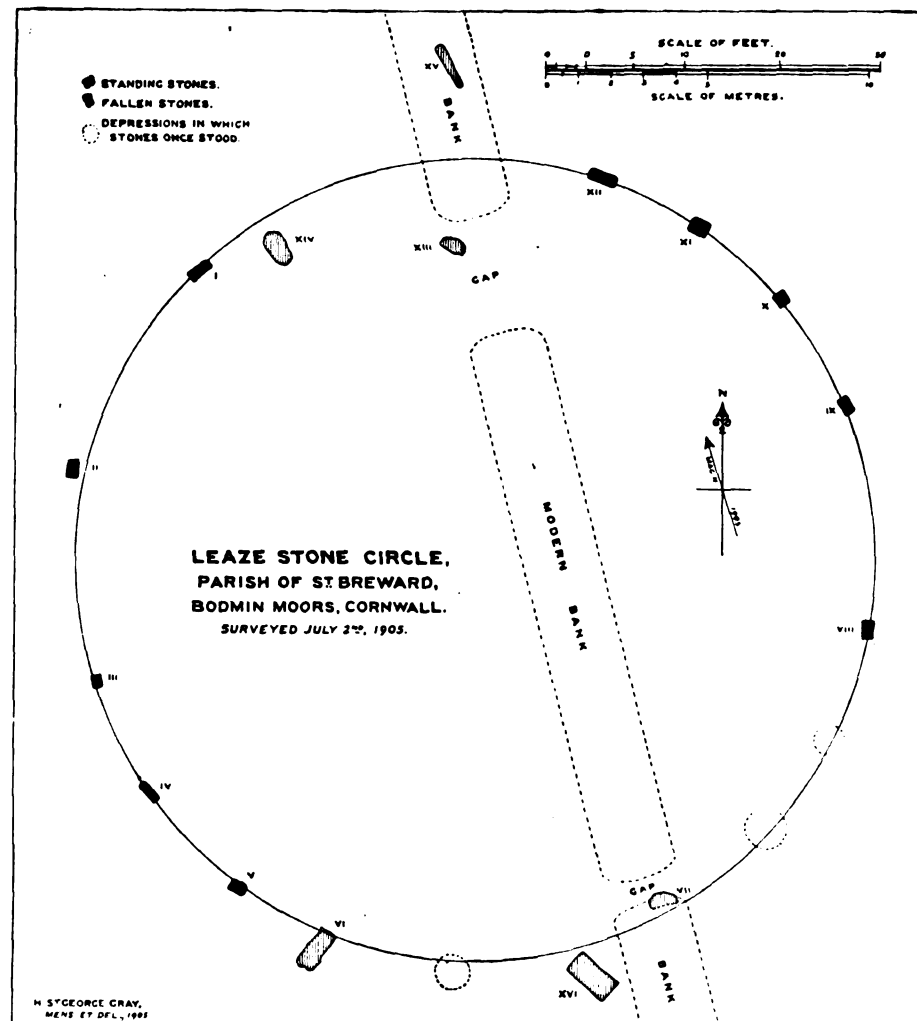


Fig. 6. Plan of the Leaze Stone Circle.

irregular wide and deep trench running down the hillside, which Mr. Tregelles regards as probably a tin stream-work.

This circle has been mutilated to a large extent by the modern bank (Plan, fig. 6) which divides it into two portions, running across the circle in a N.N.W. and S.S.E. direction, and a furze-brake occupies the interior space and

the surroundings. Fortunately, however, the bank is not so high as to obstruct a general view of the circle from most points. (Plate IV. fig. 3.) There is a slight trench on either side of the bank, the latter being about 3 feet above the trench and $2\frac{1}{2}$ feet above the level of the surrounding land. A similar "dyke," or modern boundary, intersects the middle and largest circle of "The Hurlers," N. of Liskeard.^a

2. OUTLYING MONOLITHS.

During my visit no time was available to look out for any standing-stones in close proximity to the Leaze circle, but the Ordnance Sheets record several in the direction of King Arthur's Hall and St. Breward. Mr. Lewis says "there are some outlying stones about 10 degrees E. of N., which may, however, have formed part of a cist, and there are what appear to be the remains of another circle a short distance to the N.W. between the Leaze circle and King Arthur's Hall."^b

3. DIRECTIONS OF HILLS AND OTHER CIRCLES IN THE VICINITY OF THE LEAZE CIRCLE.^c

Stripple Stones, 18 degrees E. of S.
 Trippet Stones, $12\frac{1}{2}$ degrees W. of S.
 Fernacre circle, 16 degrees E. of N.
 Stannon circle, 23 degrees W. of N.
 Brown Willy, $38\frac{1}{2}$ degrees E. of N.
 Rough Tor, 13 degrees E. of N.
 The top of Garrow Tor, $32\frac{1}{2}$ degrees E. of N.
 Catshole Tor, 22 degrees N. of E.
 Butter's Tor, $31\frac{1}{2}$ degrees N. of E.

4. DESCRIPTION OF THE CIRCLE.

(Notes taken from my own Survey.)

The Leaze circle consists of ten standing (Nos. I. to V. and VIII. to XII.)

^a See Mr. C. W. Dymond's plan, *Journal of the British Archaeological Association*, xxxv. 304.

^b See Mr. Lewis's paper on "Prehistoric Remains in Cornwall," *Journal of the Anthropological Institute*, xxv. 8; also *Journal of the Royal Institution of Cornwall*, xiii. 108.

^c See also *Archæological Journal*, xlix. 148-50.

and six^a prostrate (Nos. VI. VII. XIII. to XVI.) monoliths. (Plate IV. fig. 3.) The N.E. portion of the circle (Stones IX. to XII.), as in the case of the Trippet Stones, represents the most complete part remaining, from which it can be estimated that twenty-two stones, forming almost a true circle, originally stood at an approximate distance of 12 feet apart.^b The constructors of the modern bank which traverses the circle were no doubt responsible for the greater part of the mutilation which has taken place, especially with regard to the displacement of the stones numbered XIII. XIV. and XV.; the stones from the depressions on the S. side were perhaps smaller than others in the circle, and being comparatively easily moved were probably utilised in the formation of the hedge. The stone marked VII. protruding from the bank where the smaller gap is situated, is most probably one of the original monoliths of the circle, and especially as it is in its correct relative position.

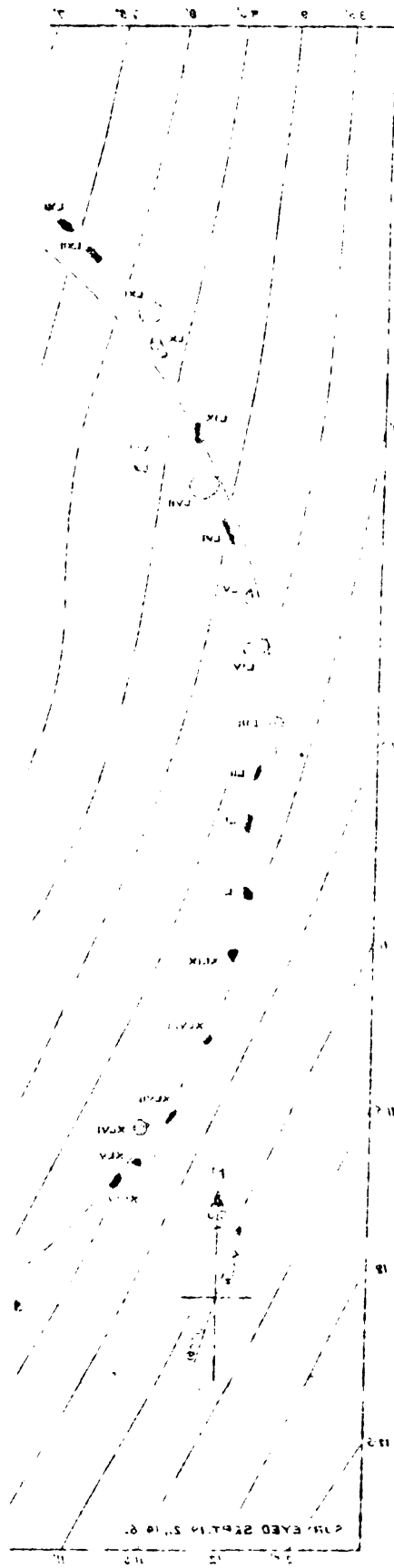
The circle described on the plan (fig. 6) through the centre of the standing-stones clearly shows the diameter of the circle to be 81 feet.^c The only stone falling out of the line of the true circle is No. II. which stands outside to the extent of about 1.3 foot. Mr. Tregelles, in his plan of the circle, brings my stones Nos. I. and IV. within the line of the circle, and has placed Stone V. a little too far to the S.W. But his stone No. 8 (which is No. VI. of the plan), instead of being on the line of the circle, is placed at a distance of $4\frac{1}{2}$ feet from the true circle.

As in the case of the Trippet and Stripple Stones, all the stones of the Leaze circle are of granite, and they are better cut and more regular than the stones of the other four circles forming the group; most of the Leaze stones, if not all,

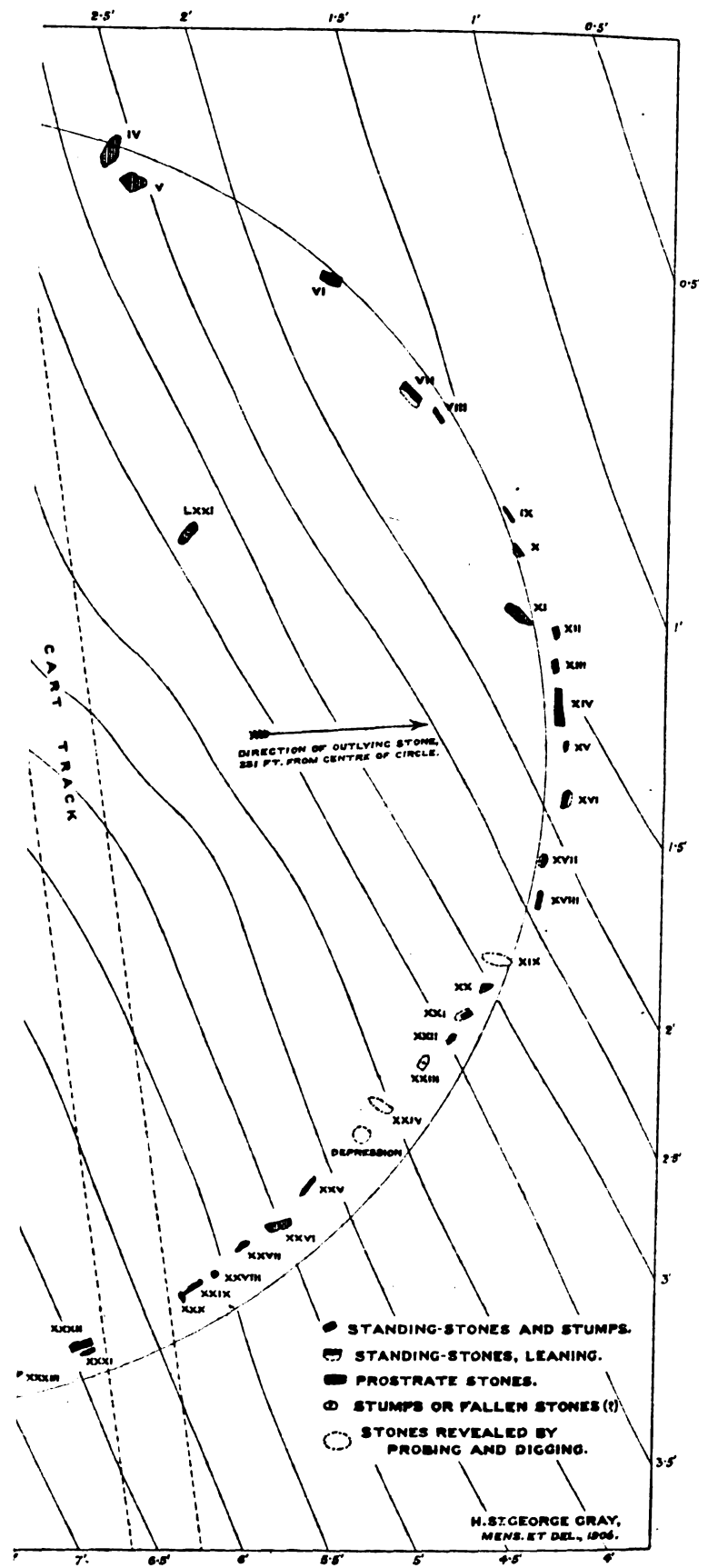
^a In 1905 the writer had recorded only five prostrate stones. On 24th September, 1906, he made a second visit to the Leaze circle for the purpose of photographing it from the W.N.W. (pl. iv. fig. 3), and found that large bushes of gorse had been burnt in various parts of the circle. This burning revealed another large prostrate stone on the S.S.E. which had previously been entirely hidden by a large clump of old gorse. Mr. Lewis evidently had not noticed it, as he mentions only one fallen stone (No. VI. of my plan). The additional stone has now been included in the plan in its approximate position (the writer had no tape with him unfortunately and had to fix its position by pacing). It has been numbered XVI. Mr. Tregelles gives this stone in his plan of the circle, but it is not correctly placed (*V. C. H. Cornwall*, i. plate facing p. 390).

^b The Rev. W. C. Lukis gives "about 12 feet apart" for the stones (as originally placed) of the three circles called "The Hurlers," about 5 miles N. of Liskeard.

^c Mr. Lewis gives $83\frac{1}{2}$ feet (*Journal of the Anthropological Institute*, xxv. 8, and *Journal of the Royal Institution of Cornwall*, xiii. 109). A plan of this circle is not given by Messrs. Lukis and Borlase in *Prehistoric Stone Monuments*, etc. published by the Society of Antiquaries of London; Mr. Tregelles in his plan shows the diameter as 80 feet (*V. C. H. Cornwall*, i. plate facing p. 390).



Scale of Feet.
0 5 10 15 20



ICLE,
ORS, E. CORNWALL.

Scale of Metres.
0 5 10 15 20

London 1908

have a quadrangular section. Possibly it belongs to a rather later period than the other circles under consideration.

As will be seen from the details in Appendix IV. the stones of the Leaze circle are $1\frac{1}{2}$ foot shorter than those of the Trippet Stones, their average height above the ground being 3.3 feet. In width they vary considerably, viz. from 1.3 to 2.75 feet; and in thickness from 0.8 to 1.7 foot. Only three stones, Nos. IX. X. and XII. stand in a vertical position at the present day; whilst Nos V. and VIII. lean considerably, and are in danger of early prostration.

V.—THE FERNACRE STONE CIRCLE.

(Plan, Plate V., and Plate VI. figs. 2 and 3.)

1. THE POSITION OF THE CIRCLE.

This circle and the Stannon and Leaze circles are named after the farms on which they are situated or to which they are nearest. Fernacre farmhouse^a is only 3 furlongs to the E.S.E. while Stannon farm is just over a mile to the W.N.W. The circle, which belongs to Sir W. Onslow, Bart., is in the parish of St. Breward, the village of which is $3\frac{3}{8}$ miles distant in a S.W. direction,^b and the same distance to the S.E. of Camelford. The nearest point to the sea in Port Isaac Bay is 7 miles to the W. It is about 925 feet above the mean level of the sea. Hut-circles abound to the E. between the circle and Fernacre farm, and to the N. on the southern slopes of Rough Tor. To the S. and W.S.W. are barrows and stone cists. To the N.W. at a distance of $4\frac{1}{4}$ furlongs is the Logan Rock at the N. extremity of Louden Hill. The view from the circle is confined to a comparatively small area bounded on the N. by Rough Tor (height 1,312 feet, distance 2,700 feet); on the S. by Garrow Tor (height 1,087 feet, distance 4,800 feet); on the E. by Brown Willy (height 1,375 feet, distance 4,600 feet); and on the W. by Louden Hill (height 1,000 feet, distance 2,650 feet).

The Fernacre circle^c is situated at the following distances from the neighbouring circles: the Stripple Stones, 15,675 feet (3 miles), due S.; the Trippet Stones, 16,810 feet ($3\frac{1}{4}$ miles), S.S.W.; the Leaze circle, 9,220 feet ($1\frac{3}{4}$ mile), S.S.W.; the Stannon circle, 6,270 feet ($9\frac{1}{2}$ furlongs), W. The Stripple Stones, the Leaze and Stannon circles are almost in line, and the same remark

^a The De Lank river flows close to Fernacre farm and between it and Brown Willy.

^b All measurements are taken as the crow flies.

^c The writer had visited this circle previously on 3rd July, 1905.

applies to the Trippet Stones, the Leaze and Fernacre circles. By reference to the 6-inch Ordnance Sheets it is seen that the summit of Brown Willy and Fernacre and Stannon circles are very nearly in the same alignment, but the line connecting the former with the latter misses being due E. and W. by just two degrees, Fernacre falling a little S. of this line; Brown Willy is the most northerly of the three.

2. DIRECTION OF HILLS AND OTHER CIRCLES IN THE VICINITY OF THE FERNACRE CIRCLE.^a

The Stripple Stones and Garrow Tor, due S.
 Stannon circle, $\frac{3}{4}$ degree S. of W.
 Trippet Stones, $14\frac{1}{2}$ degrees W. of S.
 Leaze circle, 16 degrees W. of S.
 Logan Rock on Loudon Hill, 28 degrees N. of W.
 Brown Willy, $2\frac{3}{4}$ degrees N. of E.
 Rough Tor, due N.

3. DESCRIPTION OF THE CIRCLE.

(Notes taken from my own Survey.)^b

The plan (Plate V.) encloses an area of 175 feet due N. and S. by 175 feet E. and W., the ground covering 0·7 acre. The magnetic variation for 1st September, 1906, at Brown Willy was 17 degrees 18 minutes W. of true N.^c The plan with its 6-inch contours shows a maximum fall of $12\frac{1}{2}$ feet from the highest ground in the N.E. corner to the lowest at the S.W. A cart-track, about 8 feet wide, traverses the E. half of the circle in a N.N.E. and S.S.W. direction.

Details regarding the position and size of the stones are given separately in Appendix V. The plan shows that the stones were probably never placed in the form of a true circle, unless "soil-creep" is responsible for more than we should be inclined to credit it with; still it must be borne in mind that the ground (peat) is very boggy in wet seasons (even more so than at the other circles). The nearest approximation to a segment of a true circle is on the western side, where the stones are placed about 7 feet apart. (See photographs, Plate VI. figs. 2 and 3). The greatest amount of divergence from the circle is seen on the S.E.

^a See also "Stone Circles of Britain," *Archæological Journal*, xlix. 148-50.

^b Figured by Lukis and Borlase in *Prehistoric Monuments of Cornwall*, 3, 30, and pl. vi.

^c My thanks are due to the Director-General of the Ordnance Surveys for this information.



Fig. 1. One of several hundreds of the remains of Hut Circles which abound in the vicinity of the Stone Circles on Bodmin Moors. This particular one is on Kerrow Downs, 2 miles W. of the "Stripple Stones."

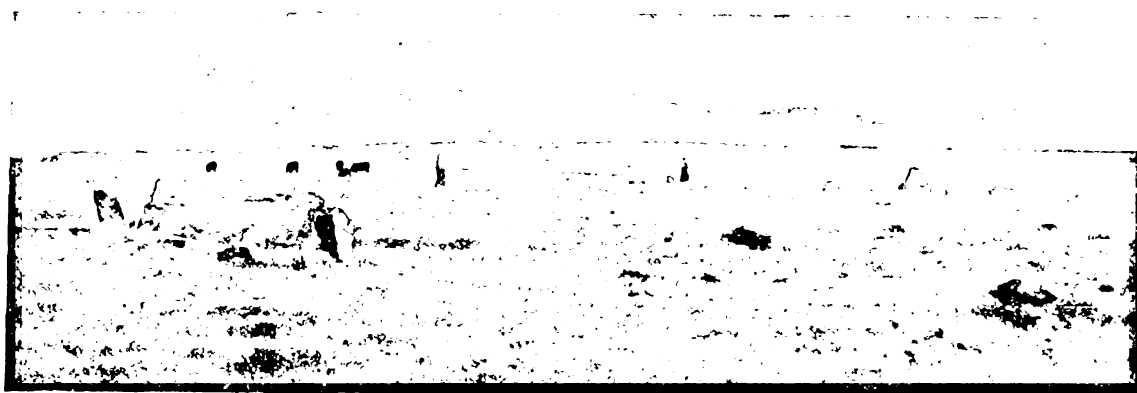


Fig. 2. The northern three-quarters of the Fernacre Stone Circle with Brown Willy in the distance ; taken from the W.N.W. The figure in both views stands near the outlying stone.



Fig. 3. The southern three-quarters of the Fernacre Stone Circle. The post on the left represents the centre of the circle.

THE FERNACRE STONE CIRCLE, AND A TYPICAL HUT CIRCLE, EAST CORNWALL.

Published by the Society of Antiquaries of London, 1908.

and on the N.W. Stones XXX. and XXXI. may have been displaced from the ring for the easier progress of vehicular traffic along the track. It is quite likely that Stones LXIX. to LXXI. only showing slightly above the surface in the central area do not belong to the ring, and if so they have probably been displaced from their original position in the circle.^a Out of the seventy-one stones^b shown in the plan, thirty-nine are standing (including stumps), the remainder being prostrate or partly sunk into the peat, whilst others could only be indicated on the plan after probing and digging.^c

All the stones are of granite. The highest standing-stone is No. VI. which leans slightly and is surrounded by a depression about 1 foot deep; its height above the level of the moor is 4.4 feet. It is figured in Plate II. fig. 4. Stone XIV. comes next with a height of 3.7 feet,^d while Stone XXXII. is 3.4 feet high. Of the prostrate stones No. LXIV. is by far the longest, viz. 6.9 feet; and No. XIV. is by far the widest stone, 4.2 feet. Nos. XXXII. XXXIV. and LXVI. are also comparatively large stones. Early prostration of several of the standing-stones is to be feared, as many of them lean considerably and some are deeply trenched round by the feet of cattle. It is a great pity that this circle and indeed the others on these moors are not railed round.

A mediate circle has been delineated on the plan (Plate VII.), which gives an approximate diameter of 149 feet for the ring. Mr. G. F. Tregelles records the diameter as about 146 feet,^e but the circle described on his plan shows the ring to be of about the same diameter as that shown on my plan.

4. OUTLYING STONE.

(Seen in the Photographs, Plate VI. figs. 2 and 3).

Both Mr. A. L. Lewis^f and Mr. Tregelles have stated that an outlying stone

^a Stone LVIII. probably belongs to the ring.

^b Mr. Lukis in 1879 said that the circle consisted of ten fallen and forty-five erect stones. He stated that the diameter of the circle was 140 feet, but his plan shows it to be about 147 feet.

^c Mr. Tregelles in his plan (*V. C. H. Cornwall*, i. plate facing p. 394) gives a buried stone close to my Stone XXV. and to the N.W. of it; and another between my Nos. XLVII. and XLVIII. He, however, does not give my Stones XXX. XXXI. LXIX. LXX. and LXXI.

^d Mr. Tregelles in my opinion gives too great a height for many of the stones. He may have estimated the height of the stones above the depressions, whereas my heights are from the general level of the moor to the top of the stones.

^e *V. C. H. Cornwall*, i. 394.

^f *Journal of the Anthropological Institute*, xxv. 6.

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Fig. 1. The eastern end of the circle where the stones are arranged in close order. On the left, Stannon Farm ; on the right, Rough Tor. The moor in the middle distance is covered with the remains of hut-circles.

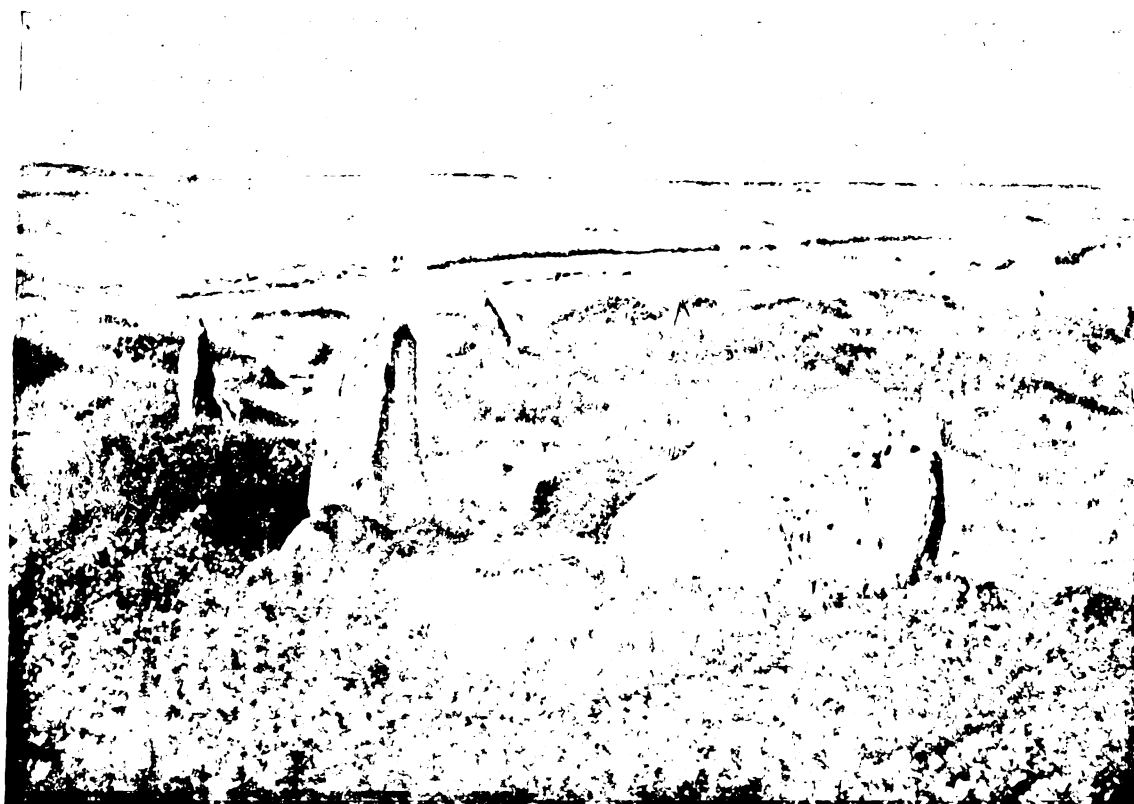


Fig. 2. View of the larger stones on the W. side of the circle ; taken from the S.W. The Stannon China Clay Works in the middle distance.

THE STANNON STONE CIRCLE, EAST CORNWALL.

Published by the Society of Antiquaries of London, 1908.

The Stannon circle is situated at the following distances from the neighbouring circles: the Stripples Stones, 16,770 feet (about $3\frac{1}{4}$ miles), S.E.; the Trippet Stones, 16,350 feet (over 3 miles), S.S.E.; the Leaze circle, 9,530 feet (about $1\frac{3}{4}$ mile), S.E.; the Fernacre circle, 6,270 feet ($9\frac{1}{2}$ furlongs), E. A line connecting Stannon circle with the summit of Brown Willy is only 2 degrees N. of E. and the Fernacre circle falls only 100 feet to the S. of this line.

2. DIRECTION OF HILLS AND OTHER CIRCLES IN THE VICINITY OF THE STANNON CIRCLE.^a

Stripples Stones, 21 degrees E. of S.
 Trippet Stones, $6\frac{3}{4}$ degrees E. of S.
 Leaze circle, 23 degrees E. of S.
 Fernacre circle, $\frac{3}{4}$ degree N. of E.
 Brown Willy, 2 degrees N. of E.
 Rough Tor, 23 degrees N. of E.^b
 Garrow Tor, 39 degrees S. of E.
 Alex Tor, $27\frac{1}{2}$ degrees W. of S.
 Logan Rock on Louden Hill, $21\frac{1}{2}$ degrees N. of E.

3. DESCRIPTION OF THE CIRCLE.

(Notes taken from my own Survey.)

The plan^c (Plate VII.) encloses an area 165 feet due N. and S. by 157 feet E. and W., the ground covering about 0.6 acre. The contours of 6 inches vertical height show a gradual fall of $8\frac{1}{2}$ feet from the highest ground in the S.E. corner to the lowest at the N.W. The surveying was greatly impeded by the luxurious growth of gorse in most parts of the circle. (See photographs, Plate VIII. figs. 1 and 2). Much had to be cut away for our purposes, and there was considerable difficulty in revealing the true outline of many of the prostrate

^a See also "Stone Circles of Britain," *Archæological Journal*, xlix. 148-50.

^b The two peaks of Rough Tor with a lower one between range from 20 degrees to 24 degrees N. of E. Possibly the sun rises between these peaks at some special season of the year; but the writer has been unable to ascertain if this is so.

^c Lukis and Borlase did not make a plan of this circle. Mr. A. L. Lewis made a small sketch-plan which is given in the *Journal of the Anthropological Institute*, xxv. pl. ii., and a larger plan has been made by Mr. Tregelles.

stones, and in some cases, either on account of the abundance of gorse or from the fact that some of the stones were entirely clothed in turf, only the approximate outline of the granite blocks could be delineated on the plan.

Details of the dimensions and position of the stones are given in Appendix VI. As in the case of the Fernacre circle the stones at Stannon could never have been placed in the form of a true circle. Indeed the Stannon stones deviate much more from a circle than those at Fernacre. The nearest approximation to a segment of a circle in the case of Stannon is on the S. S.E. and E., and if a smaller segment is taken the E. part is the truest. (See photograph, Plate VIII. fig. 1.) By far the greatest amount of flattening of the circle^a occurs on the N., while at the N.W. there is almost an angle formed by the position of the stones. There is great divergence, too, in the relative position of Stones XXI. to XXVIII. on the E.S.E. and in the segment extending from the S. to the W. The N.W. quarter of the circle shows the best line of stones still erect, and had not Stones LXXI. and LXXII. fallen outwards there would have been twelve stones standing in sequence in their original position, apparently without any deficiencies between. The two small stones in the central area are not, we think, in their original position, and have probably been removed from the circle. The greatest gaps occur on the N.E. and S.S.E.

Of the seventy-nine stones in the circle and within it in my plan,^b forty-one are standing (including stumps), the remainder being prostrate or partly sunk into the peat, whilst others could only be indicated on the plan after probing, digging, or gorse-cutting.^c

The highest standing-stones are close together on the S.W. (Plate VIII. fig. 2); Nos. LVI. and LIX. are each 3.55 feet above the field level, and No. LII. is 3.1 feet high. Stone LXIV. leans outwards considerably, but when erect its height was probably 3.8 feet. Of the prostrate stones Nos. XXXVIII. and IX. are the longest, the lengths being 5.8 and 5.5 feet respectively. These are closely

^a This flattening appears to me to be rather too strongly emphasised in Mr. Tregelles's plan of the circle. (*V. C. H. Cornwall*, i. plate facing p. 394.)

^b Mr. Tregelles shows seventy.

^c In the E. half of the circle Mr. Tregelles in his plan shows a buried stone (No. 29) which we failed to discover. On the other hand he appears to have missed No. XXXIV. of my plan, and to have drawn his No. 36 at the wrong angle. In the W. half he has omitted a standing-stone on the W.N.W. (shown, however, in Mr. Lewis's earlier sketch-plan), and most of the stones on his plan from Nos. 39 to 56 do not appear to be delineated in their correct relative positions. Mr. Tregelles appears also to have missed one or two stones in this part, whilst, owing to the thickness of the gorse, we did not find his No. 47 just outside the circle on the S.W.

followed by Nos. XIII. VII. and V. with lengths of 5·35, 5·3, and 5·2 feet respectively. The widest stone in the circle is No. LXIV. width 4·5 feet; this is closely followed by Nos. LII. and IX. 4·4 and 4 feet wide respectively.

Deep depressions are seen round some of the standing-stones, but the heights have been measured from the average turf level surrounding them. The large stone No. LXIV. leaning outwards at an angle of about 58 degrees with the ground has a deep hollow on the W. side, and will probably fall before many years have passed.

A circle has been described on the plan (Plate VII.) which, although including the somewhat flattened stones on the N. well within its area, is mediate for the stones on the E. S. and W. It gives a diameter of 138 feet, which compares precisely with the dimension given by Messrs. Lewis and Tregelles.

4. OUTLYING STONE.

At 30 degrees E. of N. as observed from the centre of the circle there is an outlying stone (No. LXXX. of plan) at a distance of 25 feet from the nearest part of the circle described on the plan, and 94 feet from the centre of the circle. This probably belongs to the group of stones, and although it is indicated on Mr. Lewis's sketch plan, it is not recorded by Mr. Tregelles. It leans in a N.E. direction towards Rough Tor at an angle of about 50 degrees with the ground. It has fairly smooth faces. When erect it was about 1·8 foot above the turf; maximum thickness 0·6 foot. Its maximum basal width is 4·6 feet, so that it is wider than any of the other stones comprising the Stannon group.

VII.—COMPARATIVE NOTES ON THE FIVE CIRCLES.

From the fact that neither Fernacre nor Stannon are true circles,^a it has been contended that they may be earlier in date than the circles in the southern division of the "group," viz. the Stripple and Trippet Stones and the Leaze circle. Such an assumption can only be proved by archæological excavations. The writer is not aware that any remains of human workmanship have been found in any of these circles except the few flint flakes (see p. 12) and the

^a These rings could easily have been made true circles by means of a central pole and a cord for radius.

calcined flint in the excavations at the Stripple Stones in 1905. As the Fernacre and Stannon circles are in close proximity to the sites of dozens of hut-circles (Plate VI. fig. 1), it is probable that the two classes of ancient sites are contemporaneous in date, and that the inhabitants of the huts used the circles for various ceremonies and observances. These circles might repay excavating if done carefully, but stone circles in England, with the exception of Stonehenge and Arbor Low, have produced little in the way of relics.

In cart-tracks and along a little runnel of water just below the hut-circles of the southern slope of Rough Tor, and between it and the Fernacre circle, Mrs. Gray found within half an hour six flint chips, a small scraper, two cores, a flake with secondary chipping, and a flint knife nearly 2 inches long with traces of considerable chipping.

The stones in the five circles are of granite. Those forming the Stripple and Trippet Stones and the Leaze circle are for the most part stout and well cut, with quadrangular cross-section. Those making up the Fernacre and Stannon circles are on the other hand smaller as a whole,^a and with few exceptions are rough and irregular in outline. The three southern circles, and especially the Trippet Stones and the Leaze circle, have the megaliths placed at fairly regular intervals apart. The Stripple Stones appear to have been arranged about $16\frac{1}{2}$ feet apart; the Trippet Stones have intervals of $12\frac{3}{4}$ feet; and the space between the stones of the Leaze circle averages 12 feet. The Fernacre and Stannon circles, on the other hand, present uneven outlines, and the remaining stones in some places occur in close order, in others at irregular intervals. Instances of similar circles are recorded. Withypool, on Exmoor, is a recent discovery of the sort.^b Mr. C. W. Dymond has figured Cumbrian circles of this character;^c they include Long Meg and her Daughters, the Keswick, Swinside,^d and Eskdale circles. The former of these (average diameter 332 feet) has a similar flattening on the N. side to that of the Stannon circle. The comparatively small circle of Boscawen-ûn, in the parish of Buryan, near Penzance, is elliptical in shape; in this case the stones follow the line of a true circle on the N.E. and S.W., but in the other parts they bulge out.^e

Both Fernacre and Stannon have an outlying stone near to; the former on

^a The stones of the Stannon circle are rather larger and more uniform than those of Fernacre.

^b *Proceedings of the Somerset Archæological Society*, lii. pt. 2, 42-50, and plan.

^c *Journal of the British Archæological Association*, xxxiv. 31-6.

^d *Transactions of the Cumberland and Westmorland Antiquarian Society*, n.s. ii. 55, *et seq.*

^e *V. C. H. Cornwall*, i. plate facing p. 382

the E. (Plate VI. figs. 2 and 3), the latter on the N.N.E. The former, as viewed from the centre of the circle, does not form an exact alignment with the summit of Brown Willy, and the use of the latter has not been ascertained.

Another point to be noticed in this group of circles is that none of the circles can be seen from the others, with the exception of the Trippet Stones, which, viewed from the Stripple Stones, stands out grandly along the sky-line; but the Stripple Stones are not well seen from the Trippets.

All the circles are highly placed above mean sea-level. The Trippet Stones are the lowest, about 799 feet, whilst the Fernacre circle is the highest, about 925 feet. The Leaze circle, about 825 feet; Stannon circle, about 835 feet; and the Stripple Stones, about 915 feet.

In diameter, Fernacre is the largest circle in Cornwall; allowing for irregularities it averages 149 feet. The Stripple Stones circle comes next with a diameter of $146\frac{1}{2}$ feet. Of the others in the "group," the diameters are as follows: Stannon, 138 feet; Trippet Stones, 108 feet; and the Leaze circle, 81 feet. These have been estimated with every attention to accuracy.*

* Mr. Tregelles gives the diameters as 146, 145, 138, 103, and 80 feet respectively.

APPENDIX I.

Barrow containing a Stone Cist in the Cornfield to the East of the Stripples Stones.

The original margin of this small barrow is now untraceable owing to the encroachments of the plough. As previously stated, the approximate centre of the barrow is 236 feet to the E. of the N.W. corner of the central stone of the circle. The present dimensions of the barrow are about 14 feet N. and S. by 19 feet E. and W. and the top of it is about 1·8 foot above the level of the surrounding field. It was unnecessary to excavate to ascertain whether a stone cist existed here, for the top-stone and the top of the walls of the cist are exposed to the atmosphere. It was found that the top-stone had not been replaced after excavation, but its W. edge still slightly overlapped the E. upright slab of granite. The line of the grave was approximately true N. and S., the broad end, that probably occupied by the skull (assuming that an interment by inhumation existed here) to the S. We re-excavated the interior space down to, and a little below, the level of the upright slabs forming the wall of the cist, but no relics whatever were recovered amongst the mould and pieces of granite which formed the filling. At a depth of 3 feet from the top of the walls the bog iron-ore deposit was reached. At the S. end of the cist and below the granite slabs the iron-ore had been penetrated, and from its level a round hole about 1 foot deep and 2·6 feet in diameter at top had been cut. No stone was found at the N. end of the cist. A trench, 2·5 feet wide, was also cut down to the iron layer across the mound, N. and S. on the W. side, but no relics were found.

The following dimensions were recorded :

Interior length of the cist, 5·7 feet.

Interior width at the N. end, 1·8 foot.

Interior width at the S. end, 3·2 feet.

Maximum length of cover, 7·8 feet; maximum width, 5 feet; maximum thickness, 0·9 foot; corners rounded.

Maximum length of E. upright slab, 5·8 feet; maximum width, 1·9 foot.

Maximum length of W. upright slab, 5·6 feet; maximum width, 1·8 foot.

Maximum length of S. upright slab, 3 feet; maximum width, 2·7 feet.

The writer has been unable to find any record of the original excavation of this cist.

APPENDIX II.

Detailed Description of the Stripples Stones. (As seen before excavation.)

PLAN, PLATE I.

Central Stone I.—Recumbent stone, a little to the S.E. of the centre of the circle, lying in a N.N.W. and S.S.E. direction, and sloping slightly towards the S.S.E. Maximum length of the stone along the E.N.E. edge, 12·2 feet; along the W.S.W. edge, 11·1 feet. Width of stone (at right angles to the length), at the N. end, 4·25 feet; at the other end, 3·75 feet; maximum oblique width at N. end, 4·9 feet. Maximum thickness at N. 0·85 foot; at S. 1·15 foot; on E. 1·3 foot (including turf grown up the side); deeply embedded into turf along the W. side. The stone has been mutilated within recent years for the purpose of securing a gate-post from the E. side of the stone; along the upper face of the stone, on the line of the fracture, 15 drilled holes are observable (diameter, 0·85 inch; average depth, 3 inches). The attempt to obtain a post of quadrangular section of the full length of the stone failed, and it broke at 3·5 feet from the N. corner, this portion still remaining in position. If the remainder of the length was detached in one piece it measured about 8·5 feet in length, 1 foot in width, and from 0·4 to 1·1 foot in thickness. The fracture through the stone at the N. end measures 0·45 foot. The upper face of the granite is fairly smooth. (Plate III. fig. 1.)

Prostrate Stone II.—Lies in a depression (nearly 1 foot maximum depth) in a N.W. and S.E. direction; the depression is less marked towards the fosse on the N.N.W. This end is 0·8 foot above the turf, the stone sloping in E. and S.S.E. directions. At the E. it is 0·9 foot above the turf of the depression (this apparently being the maximum thickness of the stone). On the S.S.E. the stone slopes off to the turf in the depression. Turf grows all round the sides except at the N.W. Total length of the stone, 7·1 feet; maximum width, 2·1 feet. Fairly flat face. To conform to the line of the true circle it must have fallen inwards.

Prostrate Stone III.—Lies in a depression in continuation from Stone II.; the depression lessens in width, however, between the stones. At the S. the upper face of the stone reaches the turf. The N. point dips slightly into the turf of the inner edge of the fosse. It has a rough flat surface which nowhere shows more than 2 inches above the turf. Length from N. to S., including 3·2 feet covered by turf at the N., 10 feet; maximum width at S. end, 4·7 feet. It appears to have fallen inwards.

Standing-stone IV.—This stone is one of the four remaining standing, but it leans towards the S. to the extent of about 15 degrees from the vertical. It stands at a height of 4·8 feet above the encircling trench worn by cattle. Between this and the stone is a tussock which grows round the stone to a height of 1 foot, but is most pronounced on the S. side. Maximum width of stone near base, 2·7 feet; maximum thickness, 0·7 foot. Slight groove on top of stone. The depression between this stone and No. III continues as a slight trench.

On the E. side of the stone and between it and the corner of the modern wall is a rough cart track. (Plate II. fig. 1.)

Prostrate Stone V.—Lies flat close to the E. side of the modern stone wall which cuts through the E. and N.E. side of the circle. Length, 6 feet; maximum width at S.E. 1.5 foot; maximum thickness, 0.8 foot. The N.W. end tapers to a rounded point. Of quadrangular section, one of the angles facing uppermost.

Prostrate Stone VI.—Recumbent stone, now of triangular form, in a similar position to No. V. and about $11\frac{1}{2}$ feet to the S.E. of it. Only the E. edge of the stone represents the original margin. The N.E. edge, exhibiting six drill-holes, represents a modern fracture as does the S.W. edge with several more drill-holes. Part of the S.W. edge is embedded in the earth. The fractured sides measure 6.5 and 4 feet respectively; the old E. edge 3.5 feet. Thickness about 0.9 foot. Upper surface fairly flat.

Standing-stone VII.—Stands in a depression worn by animals rubbing against the stone, 1.2 foot below the average turf-level. The stone is closely surrounded by a tussock about 1.2 foot in height (tapering at the ends of the stone). It is the only stone in the circle which can be described as vertical at the present day. On its N.W. face it presents a slight concavity towards the top. The top has an almost sharp bevelled edge caused by weathering. The S.E. face is the rougher and presents a slight convexity. Maximum height above depression, 5.9 feet; height above tussock about 4.75 feet. The N.E. end of the stone averages 0.5 foot thick, whilst the opposite end averages 0.9 foot for the lower half and 0.5 foot for the upper half. There is an oblique ridge or shoulder on the S. about half-way up the stone. Maximum width on S.E. side, 2.65 feet; on N.W. side (near top), 2.55 feet.

Prostrate Stone VIII. (in three pieces).—Large stone in three pieces several feet outside the circle on the E.S.E. covering 18 feet of ground from W.S.W. to E.S.E. The general slope of the pieces is in an E.S.E. direction. The larger piece is fractured lengthwise (obliquely to the surface of the stone in a S.E. direction), the fracture opening to a maximum of 0.25 foot. Measured obliquely from N. to S., the W. end of the stone is 7 feet wide, with an average thickness of 1.8 foot above the surrounding turf, but it probably penetrates the turf and turf-mould for several inches. The W. end is fairly flat, the other end has a width of 2.8 feet, sloping nearly to the turf at the E.S.E. corner. There is an average intervening space of 1.8 foot between this and the middle piece. The latter piece has a dorsal ridge, height 0.9 foot on the W.S.W. from which the stone slopes off to the ground on the N. and S.E. The third piece is 1.75 foot from the second; it is of triangular section with the turf-level; maximum height from turf, 0.7 foot. Length of the largest piece 9.8 feet. A slight trench connects the largest piece with Stone IX. This stone was in two pieces only when the circle was visited by Mr. Tregelles in 1902. (See plan *V. C. H. Cornwall*, i., plate facing p. 390).

Prostrate Stone IX.—Recumbent stone which has apparently fallen in the direction of Stone X. Roughly of oval outline; length 10 feet. Slight trench connects this stone with No. VIII. Flat base on E. on which the stone may have stood originally. A curved dorsal ridge runs from centre of upper face to about the centre of the "base"; the stone slopes

from this ridge to the ground on all sides. The surface is tolerably smooth. A big "flake" of granite has been removed from the S.E. side. The width from the S. corner to the N.N.E. is 6·7 feet, whilst the "base" measures 3·4 feet across. It was much overgrown with turf on the N. side and to a lesser extent on the S.E. and S.S.E.; this growth we removed as in the case of other stones of the circle.

Standing-stone X.—It stands in a well-marked depression at a distance of only 4 feet from the S.W. side of Prostrate Stone No. IX. The depression is about 1·3 feet below the surface of the moor. On all sides but the N. a tussock averaging 1 foot in height grew round the stone. It leans considerably towards the S. approximately 20 degrees out of the vertical. Its N. face is flat, ditto S. face, except for a slight ridge near the base running up at an angle of some 20 degrees with the ground. The general outline of the stone is of a somewhat pyramidal character, although the W. edge is as nearly as possible 90 degrees with the ground as viewed from the N. or S. The E. edge is parallel to the W. for 3 feet of its height from the depression at the N.E. corner, from which point it runs up at an angle of about 45 degrees to the top, meeting the W. edge at a rounded point. At the S.E. corner the "shoulder" occurs at 2·2 feet above the depression. Its maximum thickness, 1·5 foot, occurs across the shoulder on the E. edge. The average thickness near the base on the W. is 1·15 foot, and about 0·5 foot near the top. The ends are smooth and round at the corners by weathering. Height of the stone from depression N. face, 6·1 feet; maximum width of lower half, 3·6 feet. (Plate II. fig. 2.)

Prostrate Stone XI.—In a large depression attaining a maximum depth of 1 foot; stone sunk into turf and turf-mould all round. The N. point of the stone was found to be several feet S. of the line of the true circle, and since its fall has probably been moved from its original position. Maximum length 6·9 feet. Flat surface; slopes slightly to S.; rounded point at N. Maximum thickness of stone above turf on N.E. 0·7 feet. Average width across the middle, 2·9 feet.

Prostrate Stone XII.—This slab had a maximum length of 8·8 feet, and had evidently fallen outwards. In its recumbent position it slopes slightly towards the S.W. and S.S.W., and has a fairly smooth surface. It lies in a slight depression; maximum depth, 0·5 foot. Above the turf its thickness on the S.S.W. is 0·7 foot; maximum width across middle, 2·9 feet.

Standing-stone XIII.—It stands in a large depression; maximum depth, 1·3 foot; worn round the stone by cattle, and is more marked on the E. than on the W.; a tussock encircles the stone to a height of 1 foot. It leans towards the E. to the extent of about 20 degrees out of the vertical, and in this respect tallies with No. X., but it heels over rather more than No. IV. Both faces of the stone are flat. In general outline as viewed from outside the circle it resembles No. X. The N.W. edge of the stone is 6·9 feet in height above the depression. The S.E. end is almost straight up to 4·25 feet above the depression, from which point it runs up with an ogee curve to the summit of the stone on the N.W. Maximum width at shoulder, 4·45 feet; at base, 4·25 feet. (Plate II. fig. 3.)

Prostrate Stone XIV.—Lies in a depression about 1 foot deep which continues to a certain extent from Stones XII. and XIII. It appears to have fallen in a N. direction.

Length, 9.5 feet; width at squared "base," 1.75 feet; thickness above depression at the S: 1 foot; at N. 0.8 foot. Maximum width in middle, 2.1 feet. There is a weathered groove in the N. half of the stone. Pointed at the N. (Plate II. fig. 3.)

Prostrate Stone XV.—Oblong in plan with an oblong projection at the W.S.W. corner. It lies in a very slight depression, most pronounced towards the N. Maximum oblique length, 9.6 feet; maximum width, 3.25 feet. Just showing above turf at the W. and S.; at the other quarters it sloped slightly into the overgrowing turf, which was removed in order that the plan of the stone might be drawn.

Prostrate Stone XVI.—This stone is not completely recumbent, being at the W.N.W. 1.1 foot clear of the surface of the turf. The other end still penetrates the turf and surface mould. The depression, maximum depth 1 foot, is not continuous with the depression surrounding Stone XV. Maximum oblique length of stone, 7.5 feet; maximum width across the middle, 4.1 feet. Thickness at W.N.W. 0.5 foot; at W.S.W. 0.2 foot; at N. 0.8 foot (which does not seem to be exceeded anywhere). The "bay" on the S.W. of this stone somewhat resembles that on the W.N.W. of No. XV. Stone XVI. has a slight oblique ridge on its surface extending from the S.E. corner in a N.W. direction. This is probably one of the five stones standing when Sir John Maclean published the *History of Trigg Minor* in 1873.

Prostrate Stone XVII.—This outlying stone was found half covered with turf, which was removed. Its position corresponds with the fosse inside the slight bank (if any fosse existed in this part of the circle). It rests in a S.S.W. and N.N.E. direction, and is 5 feet long, having a rough dorsal ridge viewed from the top. Roughly pointed at the S.S.W.; squared at the other end, where it is 0.8 foot wide and thick. Maximum width, 1.4 foot.

Prostrate Stone XVIII.—This large stone to the S.S.E. of the centre of the circle was intentionally included in the plan, and it is not known whether it belonged originally to the circle proper or stood in the place it now occupies. It was found much overgrown, and it sloped off into the turf at the S.S.E.; in other parts the surface of the stone was 1.1 foot above the average ground level. It is grooved (N.W. and S.E.) by weathering. Maximum length, 9.6 feet; maximum width, 6.8 feet.

APPENDIX III.

Description of the Trippet Stones as numbered on the Plan, Fig. 5.

NOTE.—The standing-stones on the plan are represented in accordance with their dimensions at the base.

Standing-stone I.—Stands upright; a tussock all round, bounded by a depression at the N. and S. of the stone; height above moor-level, 4·6 feet; thickness varies from 1·1 to 1·3 foot, narrowing to 0·8 foot at the bevelled top; maximum width near top, 4 feet. Fairly smooth on both faces. N. end rounded.

Prostrate Stone II.—Rests in a depression about 1 foot deep; fallen outwards in a W.N.W. direction; maximum width at top, 2 feet; maximum thickness, 1·1 foot; quadrangular section. Base measures 0·8 by 0·9 foot. This is the stone that has fallen since Lukis made his plan. Mr. Tregelles shows this stone on his plan to have fallen in a due W. direction.

Standing-stone III.—Stands in a depression clearly defined on W., N.W., S. and S.W., deepest on W. where it is $1\frac{1}{2}$ foot below the moor-level; tussocks growing against stone on these sides; inner face quite flat, 5 feet high, 2 feet wide, outer face fairly flat, 4·2 feet high, 1·8 foot wide; maximum thickness at top, 2 feet, at bottom, 1·3 foot; quadrangular section; top of stone, 2 feet by 1·7 foot. The stone leans towards the W. to the extent of about 25 degrees.

Prostrate Stone IV.—Dimensions as plan; S.W. edge shows modern drill-holes. On S.W. the upper surface is 4 inches from the moor; on other sides 2 inches.

Standing-stone V.—Leans towards the S.S.W. to the extent of about 35 degrees. Depression all round the stone except on the N.E.; most marked on the S.W. where it is $1\frac{1}{2}$ foot below the moor-level. Faces, fairly flat; quadrangular section. Height of inner face, 4·7 feet; of outer face above tussock, 4·4 feet; maximum width, 2·5 feet. Maximum thickness N.W. 1·4 foot; S.E. 1·5 foot. Interior width at base, 2·05 feet; top measures 1 by 1·6 foot.

Standing-stone VI.—Leans to W. and also to S. to the extent of about 12 degrees. Heavy tussocks on both faces; depression on all but inner side; depth about 1·3 foot; flat inner face, height 4·2 feet above tussock; maximum height of outer face above tussock, 4·05 feet. Maximum width near top, 3·8 feet; near base, 3·4 feet. Thickness, W.S.W. end, from 1·5 to 0·9 foot; E.N.E. end, 0·9 foot to 1·3 foot. Block removed from S.W. corner at base; quadrangular section.

Standing-stone VII.—Stands in a depression all round, averaging $1\frac{1}{2}$ foot deep; tussock encircles base of stone. Slopes inwards to the extent of nearly 10 degrees from the vertical; quadrangular section; faces fairly flat. Height above tussock, inner face, 4·9 feet; outer

face, 4·5 feet. Maximum width of inner face, 1·8 foot. Thickness near top, on N. 1·7 foot, on S. 1·5 foot; at bottom, on N. and S. 1·3 foot. Top slopes off both ways from a N. and S. ridge.

Standing stone VIII.—Upright, with one or two vertical lines of cleavage on the sides; stands in a depression all round, averaging 1 foot in depth; tussock grows round the stone. Height above tussock, inner face, 4·3 feet; outer, 4·45 feet. Width of stone near top, 1·65 foot. On the E. face a pronounced transverse ledge (width $4\frac{1}{2}$ inches) occurs at 2·2 feet above the tussock. The top of the stone has a sharp ridge, width 1·7 foot, bevelled more on the E. than the W. The stone is of quadrangular section, with a thickness of 1·2 foot at N.; 1·4 foot at S.

Prostrate Stone IX.—Fallen inwards in the direction of Stone III.; resting in a very slight depression; stone shows on an average of 0·7 foot above the turf, and apparently is rather thicker at the base than at the slightly-rounded top. Maximum width near top, 2·4 feet.

Standing-stone X.—Stands in depression, maximum depth, 0·8 feet, which shows very slightly on the N.E.; small tussock all round; faces almost flat, the inner one *slightly* concave. Height on inner side above tussock, 4·4 feet; on E.N.E. face, 4·5 feet. Maximum width towards top, 3·6 feet; maximum thickness at top, 0·8 foot. Average thickness on N. side, 0·5 foot; on S.S.E. 1 foot; section, quadrangular. The stone leans towards the W.N.W. to the extent of about 20 degrees from the perpendicular.

Prostrate Stone XI.—Fallen in a S. direction, the lower portion probably covering the hole in which the stone originally stood; rests in a slight depression; overgrown with heath on the N.N.E. Maximum width 2·5 feet; top about 1·6 foot (E. and W.) by 0·9 foot (N. and S.).

Standing-stone XII.—In marked depression on all sides but the N.W.; tussock encircles the stone, except on the N.W. It leans slightly towards the S.E. and considerably towards the S.S.W. probably to the extent of 40 degrees. Measurement from tussock to top of stone, inner face, 4·2 feet; from top of stone to moor-level, outer face, 5 feet. Maximum width near top, 1·7 foot; at bottom, 1·3 foot. Thickness at top on W. 1·3 foot, on E. 1·4 feet; at bottom on W. 1·2 foot, on E. 1·3 foot. Section of stone, quadrangular; faces fairly smooth.

APPENDIX IV.

Description of the Stones of the Leaze Circle as numbered on the Plan, Fig. 6.

NOTE.—All the stones are of quadrangular cross-section ; this point is therefore omitted in the descriptions.

Standing-stone I.—Stands in a fairly well-marked depression, and leans slightly inwards. Height above surrounding tussock, 3·2 feet ; maximum width, 2·5 feet ; thickness from 0·85 to 1 foot ; top measures 0·8 by 2·1 feet.

Standing-stone II.—Stands in shallow depression, which is deficient on the inside ; slight tussock ; leans towards the S.W. to the extent of about 30 degrees from the vertical. Height, inside, 3·25 feet ; width, 1·8 foot ; thickness near top, 1·35 foot on S., 1·1 foot on N. ; a little thinner near base ; top measures 1·6 by 1·2 foot ; smooth faces.

Standing-stone III.—Stands in deep depression, except at W. ; tussock all round the stone ; rushes grow in depression. Height from tussock, inside, 3·4 feet ; width, 1·25 foot ; maximum thickness, 1 foot ; height on outside from turf, 3·7 feet ; on top is a groove running from N.W. to S.E. The stone leans inwards towards the E.N.E., nearly 30 degrees out of the upright. Mr. Tregelles gives 1 foot 10 inches for the breadth of this stone.

Standing-stone IV.—Stands in shallow depression with a small tussock. Height above tussock, 2·85 feet ; maximum width, 2·35 feet ; maximum thickness, 0·8 foot, lessening to 0·5 foot at top. Rounded at bottom, N.W. corner. Leans slightly inwards.

Standing-stone V.—Well-marked depression and tussock, except on N. Leans considerably to the S. and S.S.E. Height, on the slope of the stone, 3·2 feet ; width, 1·45 foot ; maximum thickness on N.W. 1·35 foot ; on S.E. 1·1 foot. Top measures 1·4 by 1·25 foot.

Stone VI.—Nearly prostrate ; at an angle of about 10 degrees with ground ; maximum width at top, 1·7 foot ; maximum thickness on E. 1·35 foot ; top measures 1·7 foot (E. and W.) by 1 foot (N. and S.).

Stone VII.—Thickness 0·95 foot.

Standing-stone VIII.—Deep depression on E. where there is a tussock also. Leans considerably towards the E. and S. ; about 45 degrees towards S. and 25 towards E. Height, on the slope, 3·7 feet ; width, 1·6 foot ; thickness on N. 1·25 foot ; on S. 1 foot ; S.S.W. corner at top chipped off. Top measures 1·25 by 1 foot.

Standing-stone IX.—Slight surrounding depression and tussock ; stands upright ; height above tussock, 3·15 feet ; maximum width, 1·95 feet. Thickness at top, 0·7 foot ; at bottom, 1·1 foot. Shoulder on outside face at 1·6 foot above tussock, where thickness of stone narrows to 0·85 foot.

Standing-stone X.—Upright stone with slight depression and tussock surrounding it ; height above tussock, 3·4 feet ; width, 1·45 foot ; maximum thickness near base on N.W. 1·35 foot ; on S.E. 1·15 foot. Bevelled off at top in all directions.

Standing-stone XI.—Leans slightly inwards ; slight depression and tussock ; height above

tussock, 3 feet; width, 1.95 foot. Thickness on S.E. 1.7 foot; on N.W. 1.6 foot. Top measures 1.7 foot square.

Standing stone XII.—Stands upright in slight depression; height above small tussock, 3.4 feet; width, 2.75 feet; average thickness, 1.1 foot; maximum thickness at top, 1.2 foot.

Prostrate Stone XIII.—Overgrown, except at N., N.E. and N.W.; 0.5 foot above turf on N.E.

Prostrate Stone XIV.—Fairly flat; 0.7 foot above turf, and partly overgrown on W. Mr. Tregelles does not appear to have this stone in its correct relative position in his plan, unless it has been moved since 1902.

Prostrate Stone XV.—This rests on the E. side of the N. bank, and might belong to the circle; if so, one of its edges shows, thickness 0.75 foot, length 4.9 feet.

Prostrate Stone XVI.—This was only observed in 1906, having been revealed by the burning of large clumps of gorse subsequent to my visit in 1905. It has fallen in a S.E. direction, and has been included in the plan in its approximate position (see fig. 6). Maximum length, 4.85 feet; maximum width, 2.5 feet; maximum thickness, 0.9 foot. Mr. Tregelles does not appear to have placed this stone in its correct relative position to the boundary-bank, and he has shown the S. gap in the hedge far too wide.

APPENDIX V.

Description of the Stones of the Fernacre Circle as numbered on the Plan, Plate V.

NOTE.—When the height, length, width, and thickness of the stones are mentioned the maximum dimensions are given, unless otherwise stated. Heights are always given above the average turf level surrounding the stones, unless otherwise stated.

Standing-stone I.—Leans inwards slightly; quadrangular section; fairly flat faces. Slight depression on all sides but the S.W. and W.; tussock round the stone. Height, 2 feet; width, 2.7 feet; thickness, 0.6 foot.

Prostrate Stone II.—Largely overgrown before being measured, no part more than 1.5 inch above moor. Length, 3.9 feet; width, about 1 foot.

Prostrate Stone III.—Flat stone, was found overgrown by turf except at the E. point, where it just showed above the surface. Length, 3.9 feet; width, 1.6 foot.

Prostrate Stone IV.—Probably fallen outwards in a N.E. direction, now flat, surrounded by turf and heather growing over the edges. Length, 4 feet; width 1.8 foot.

Prostrate Stone V.—Irregular stone with uneven upper face, fallen inwards; 0.5 foot above the turf level on the N.N.W.; grass growing up all round it. Length, E.N.E. to W.S.W. 2.3 feet; width, N.N.W. to S.S.E. 2.1 feet.

Standing-stone VI.—In deep depression at least 1 foot below the moor, with surrounding tussock; leans slightly towards N.N.E.; fairly smooth face on N.N.E.; quadrangular in

section, tapering upwards from all sides but the N.N.E. to a fairly sharp top. Height, 4.4 feet; width at base (inner face), 2.4 feet; width near top, 1.8 foot; thickness at base on W.N.W. 1 foot, on E.S.E. 1.25 foot. (Plate II. fig. 4.)

Standing-stone VII.—Leans inwards in a S.W. direction at an angle of about 45 degrees with the ground; smooth faces; surrounded by a tussock, and much grown over at N.N.E. Height when upright, probably 1.6 foot; width, 3.3 feet; thickness, 0.7 foot on top at S.S.E.

Standing-stone VIII.—Of the nature of a stump, with ragged top; probably broken off at the top; surrounded by a tussock. Height, 1 foot; width, 2.1 feet; thickness at S., 0.45 foot.

Standing-stone IX.—Small, probably not a stump, leans a little inwards; slight tussock. Height, 0.85 foot; width, 2.3 feet; thickness 0.35 foot.

Standing-stone X.—Apparently a complete stone, of quadrangular section; leans in a W.S.W. direction at an angle of about 55 degrees with the ground; slight tussock. Height originally about 1.15 foot; width at base, 1.95 foot; thickness at top, 0.45 foot.

Prostrate Stone XI.—Showed slightly above turf-level on the N. N.E. and W. but the remainder was uncovered, revealing a flat and fairly smooth surface. Length, 3.8 feet; width, 1.2 foot.

Standing-stone XII.—Fairly thick except at the top, which was bevelled off; surrounding tussock. Height, 1.3 foot; width, 1.55 foot; thickness at base, 0.7 foot.

Stone XIII.—Stump of quadrangular section, apparently broken off at the top; high tussock. Height, 0.7 foot; width, 1.4 foot; thickness, 0.6 foot.

Standing-stone XIV.—Large upright stone with fairly smooth faces; triangular in general outline; deep depression in the ground on the inner side; tussock on the inner side and at the ends. Height, 3.7 feet; maximum width measured obliquely, 4.7 feet; thickness at N. 0.65 foot, at S. 1.2 foot.

Standing-stone XV.—Small, with surrounding tussock; quadrangular section. Height, 1 foot; width, 1.2 foot; thickness, 0.6 foot.

Standing-stone XVI.—Leans towards the E. at an angle of about 70 degrees with the ground; slight surrounding tussock. Height, 1.5 foot; width at base, 2.4 feet; thickness, 0.7 foot.

Standing-stone XVII.—Leans inwards towards the W. at an angle of 45 degrees with the ground; surrounding tussock. Height originally about 1.1 foot; basal width, 1.7 foot; thickness at base, 0.45 foot.

Standing-stone XVIII.—Leans slightly inwards; faces fairly flat, especially the inner one; slight tussock. Height, 1.3 foot; width at base, 2.2 feet; thickness, 0.5 foot.

Prostrate Stone XIX.—Showed slightly at W.N.W. end only; partly excavated to obtain the outline; evidently fallen inwards. Length, 3.8 feet; width, 1.2 foot.

Prostrate Stone XX.—Apparently a fallen stone; triangular outline, revealed by digging. Sides measure on the S.E. 1.9 foot; on other sides 1.2 foot and 1.2 foot.

Standing-stone XXI.—Leans inwards in a W. direction at an angle of about 45 degrees with the ground; one angle facing W.; quadrangular section; flat faces and top; tussock

on W. N.W. and S.W. Probable height originally, 2·4 feet; width at top 1·6 foot, at bottom 1·5 foot; thickness, 0·8 foot.

Standing-stone XXII.—Small, leaning outwards in a S.E. direction at an angle of about 75 degrees with the ground. Height, 1 foot; basal width, 1·3 foot; basal thickness, 0·6 foot, at the top 0·4 foot.

Stone XXIII.—Flat top, (?) complete stone; slight surrounding tussock. Height, 0·9 foot; width, 1·6 foot; thickness, 0·95 foot.

Prostrate Stone XXIV.—Excavated to obtain approximate outline; fallen inwards. Length, 3 feet; width, 1 foot.

Standing-stone XXV.—Upright; almost entirely encircled by a tussock; bevelled on both sides at the top. Height, 0·75 foot; width, 2·4 feet; thickness, 0·35 foot.

Prostrate Stone XXVI.—Largely overgrown by a slight bank extending from here to the cart-track passing Stone XXX. Length 2·8 feet; width, 1·1 foot; thickness above surface, 0·25 foot.

Standing-stone XXVII.—Upright with tussock. Height, 0·65 foot; width at base, 2 feet; thickness, 0·7 foot.

Stone XXVIII.—Small, just showing in the slight bank; loose, but fairly heavy. Width, 0·7 foot.

Standing-stone XXIX.—Upright. Height, 1 foot; width, 2·7 feet; thickness, 0·5 foot.

Stone XXX.—Moved apparently from the cart-track, and now serving as a kind of curb-stone resting against the W. margin of Stone XXIX. Length 1·4 foot; thickness, 0·4 foot.

Prostrate Stone XXXI.—Wedged into tussock surrounding Stone XXXII. and to the S.S.E. of that stone; apparently moved from its original position in the present cart-track. Length, 2 feet; width, 0·7 foot.

Standing-stone XXXII.—Stands in a deep depression on all sides but the S. and S.W.; tussock all round; leans inwards at an angle of about 80 degrees with the ground; slightly concave face on the S. Height, 3·4 feet; width at base, 2·5 feet; thickness, 0·9 foot.

Standing-stone XXXIII.—Small stone, or stump, cleared of turf and heather to obtain its outline; leans outwards a little. Height, 0·8 foot; width, 1·5 foot; thickness at top, 0·35 foot. Small pieces of stone were detected chiefly by probing between this stone and No. XXXIV. probably not belonging to the stones of the circle.

Standing-stone XXXIV.—Large triangular stone with fairly flat face on both sides; high tussock except on inside, where there is a depression in the ground. Height, 2·65 feet; width (measured obliquely), 3·8 feet; thickness, 1 foot at the E. end.

Stone XXXV.—Small stone just showing above the turf; perhaps portion of a stump. Dimensions 0·9 foot by 0·5 foot.

Prostrate Stone XXXVI.—Excavated to follow margin; fairly flat surface; fallen outwards apparently. Length, 1·8 foot; width, 1·5 foot.

Prostrate Stone XXXVII.—Fallen in a N.W. direction; excavated to follow the margin; fairly smooth surface. Length, 2 feet; width 0·8 foot.

Prostrate Stone XXXVIII.—Fallen outwards in a S.S.W. direction; very little showed above the surface before the overgrowing turf and heather were removed to ascertain the approximate margin of the stone. Length, 4·4 feet; width, 4·4 feet.

Prostrate Stone XXXIX.—Inside line of the circle somewhat; entirely overgrown, turf being removed to follow the margin. Length, 2 feet; width, 1·5 foot.

Stone XL.—Found by probing, and uncovered to obtain the size. Length, 1·85 foot; width, 1·6 foot.

Standing-stone XLI.—Leans outwards a little; surrounding tussock. Height, 1·1 foot; width at base, 1·4 foot; thickness, 0·75 foot.

Standing-stone XLII.—Leans towards the centre of the circle at an angle of about 75 degrees with the ground; surrounding depression and tussock. Height, 2·6 feet; basal width, 2·2 feet; thickness, 1·2 foot.

Standing-stone XLIII.—Perhaps a stump only, with quadrangular section, and fairly flat top; leans a little in a S.W. direction; surrounding tussock. Height 1·4 foot; basal width, 2·1 feet; thickness, 1·15 foot.

Standing-stone XLIV.—Upright; both faces triangular in outline; surrounding tussock. Height, 1·4 foot; basal width, 2 feet; thickness, 1·1 foot.

Standing-stone XLV.—Leans a little in W. direction; flat face on inside; surrounding tussock. Height, 1·2 foot; width, inner face, 1 foot; thickness, 1·1 foot.

Prostrate Stone XLVI.—Fallen inwards; tussock all round. Length, 1·75 foot; width, S.S.E. to N.N.W. 1·85 foot.

Standing-stone XLVII.—Leans outwards towards W.S.W. at an angle of about 75 degrees with the ground; surrounding tussock. Height, 1·2 foot; basal width, 1·75 foot; thickness, 0·5 foot.

Standing-stone XLVIII.—Upright; inner face flat; surrounding tussock. Height, 1 foot; basal width, 1·1 foot; thickness, 0·5 foot.

Standing-stone XLIX.—Upright; flat face on W.; fairly flat and wide top; surrounding tussock. Height, 1·4 foot; width, 1·6 foot; thickness, 1·1 foot.

Standing-stone L.—Leans a little outwards; smooth flat inner face; fairly flat and wide top; surrounding tussock. Height, 1·4 foot; width, 1·3 foot; thickness, 1·15 foot.

Standing-stone LI.—Upright; triangular outline, the N. edge being almost vertical; flat top; surrounding tussock. Height, 1·55 foot; basal width, 2·1 feet; thickness, 0·65 foot.

Standing-stone LII.—Leans outwards at an angle of about 80 degrees with the ground; fairly smooth faces; pointed top, obtuse; slight surrounding tussock. Height, 1·45 foot; basal width, 2·1 feet; thickness, 0·4 foot.

Stone LIII.—Fallen outwards apparently; excavated to get the approximate outline. Length, 2·25 feet; width, 1·3 foot.

Stone LIV.—About 4 inches below the surface; excavated to get the outline. Length, 3 feet; width, 1·9 foot.

Prostrate Stone LV.—Slopes considerably from W. to E. Length, 2 feet; width, 1·2 foot.

Standing-stone LVI.—Upright; surrounding tussock and deep depression on the W. and N.W.; inner face fairly flat. Height, 2 feet; basal width, 3 feet; thickness, 0·45 foot.

Stone LVII.—Fallen inwards apparently, and marked by probing. Approximate length, 3·4 feet; ditto width, 2·9 feet.

Prostrate Stone LVIII.—Within the line of the circle; rectangular outline; slopes from E. to W.; excavated to follow the outline; sides, 1·4 foot by 1·4 foot.

Standing-stone LIX.—Leans in a W.N.W. direction to the extent of about 30 degrees with the ground; surrounding tussock and deep depression on the N. and N.W. Original height, about 1·3 foot; basal width, 2·2 feet; thickness, 0·6 foot.

Prostrate Stone LX.—Difficult to say whether it has fallen in a S.W. or N.W. direction; slight surrounding tussock. Length, 2·9 feet; width, 1·35 foot.

Stone LXI.—Entirely hidden by a thin layer of turf, which had to be removed; apparently fallen outwards in a W.N.W. direction. Length, 2·8 feet; width, 2·6 feet.

Standing-stone LXII.—Upright; in deep depression all round, and high tussock; quadrangular section; fairly flat faces on both sides. Height, 2·7 feet; width, 2·1 feet; thickness, 0·8 foot.

Standing-stone LXIII.—Leans slightly towards the W.; irregular with uneven faces; small surrounding tussock. Height, 1·5 foot; basal width, 2 feet; thickness, 1·1 foot.

Prostrate Stone LXIV.—Fallen inwards in a S. direction and covering the hole (which can be partly seen) in which it stood originally; lies in a deep depression with surrounding tussock; fairly smooth surface with longitudinal groove at the S. end. Length, 6·9 feet; width at S. 2·5 feet; basal thickness, about 1·2 foot.

Standing-stone LXV.—Leans southwards at an angle of about 45 degrees with the ground; quadrangular section; surrounding tussock and slight depression on all sides but the N. Height when standing erect about 1·9 foot; basal width, 2·7 feet; thickness, 0·7 foot.

Standing-stone LXVI.—Leans in a N.W. direction at an angle of about 75 degrees with the ground; stands in a very deep depression on the W., N.W. and N. so that the stone may soon become prostrate; triangular in outline; on W. flat squared edge; on E. flat oblique edge. Original height, probably 2·8 feet; basal width, 2·75 feet; thickness, 1·2 foot.

Prostrate Stone LXVII.—A little outside the line of the circle; probably moved from between Stones LXVIII. and I.; flat smooth surface sloping off a little towards the W. Length, 3·15 feet; width, 1·95 foot; thickness at S. 0·65 foot.

Standing-stone LXVIII.—Leans in a N. direction at an angle of about 70 degrees with the ground; fairly smooth flat faces; surrounding tussock with a depression on the N.E., N. and N.W. Height, 2·05 feet; width, 2·55 feet; thickness, 0·9 foot.

Stone LXIX.—A little to the W. of the centre of the circle; mostly overgrown, but uncovered now. Length, 3·3 feet; width, 1·85 foot.

Stone LXX.—A few feet to the E. of the centre of the circle; partly revealed by excavating. Length, 2·3 feet; width, 1 foot.

Stone LXXI.—Lies in a little runnel to the N.E. of the centre of the circle, and midway between it and the line of the circle; rough surface; partly revealed by excavating. Length 3 feet; width, 1 foot.

APPENDIX VI.

Description of the Stones of the Stannon Circle as numbered on the Plan, Plate VII.

NOTE.—When the height, length, width, and thickness of stones are mentioned the maximum dimensions are given, unless otherwise stated. Heights are always given above the average turf-level surrounding the stones, unless otherwise stated.

Prostrate Stone I.—Fallen outwards in a N.W. direction; slopes off to ground on the S.E.; 0.5 foot above tussock on the N.W. Length, 2.9 feet; width, 1.05 foot; thickness at N.W. 0.75 foot.

Standing-stone II.—Leans inwards at an angle of about 75 degrees with the ground; triangular faces smooth and flat; slight tussock. Height, 1.45 foot; basal width, 3 feet; thickness, 0.8 foot.

Standing-stone III.—Leans outwards at an angle of about 80 degrees with the ground; very slight tussock. Height, 2.05 feet; width, 2.95 feet; thickness, 0.7 foot.

Standing-stone IV.—Upright; flat, smooth, inner face. Height, 1.45 foot; basal width, 2.5 feet; thickness, 0.8 foot.

Prostrate Stone V.—Fallen in a S.E. direction, covering its own hole; N.W. end slopes into the ground; S.E. end 1.1 foot above the turf; depression all round. Length, 5.2 feet; width, 2.7 feet; thickness obtainable in one or two places, 1.1 foot.

Prostrate Stone VI.—Probably fallen inwards kicking out over its own hole; lies almost level; slight depression on all sides but the N. Length, 4.5 feet; width, 3.3 feet.

Prostrate Stone VII.—Entirely overgrown with grass and gorse; margin traced by probing; appears to have fallen inwards. Approximate length, 5.3 feet; ditto width, 3.3 feet.

Stone VIII.—This small stone is not completely prostrate, but leans very considerably towards the W.N.W.; much overgrown round the sides. Width, 1.45 foot; thickness obtainable 0.35 foot.

Prostrate Stone IX.—Large quadrangular block of granite which appears to have fallen in a N.N.E. direction, covering its hole in doing so; deep depression on the N.W., N. and N.E.; considerably overgrown with grass and gorse at the S.; slopes towards the S.W. at an angle of about 15 degrees with the ground; fairly smooth surface. Length, 5.5 feet; width, 4 feet; thickness, 0.9 foot.

Standing-stone X.—Upright; probably a big stump, it having the appearance of being fractured horizontally on the top; outer face flat; slight surrounding tussock. Height, 1.5 foot; basal width, 1.8 foot; thickness, 1.3 foot.

Prostrate Stone XI.—Large stone entirely covered by turf and gorse; it appears to have fallen inwards. Length, 4.8 feet; width, 2.9 feet.

Standing-stone XII.—Almost upright; general section, quadrangular; fairly flat faces;

top bevelled off from both faces. Height, 2.15 feet; basal width, 2.3 feet; thickness, 1.1 foot.

Prostrate Stone XIII.—Fallen in a W. direction; only a small portion of the E. end shows above the surface, the remainder being overgrown by gorse and turf; outline followed by probing. Length, 5.35 feet; width, 2.5 feet.

Prostrate Stone XIV.—Fallen outwards; slopes off into the ground on the E.; on the W. 0.6 foot above the ground. Length, 5 feet; width, 2 feet.

Standing-stone XV.—Leans inwards at an angle of about 80 degrees with the ground; flat and fairly smooth faces; surrounding tussock. Height, 2.2 feet; width, 2.4 feet; thickness, 0.6 foot.

Prostrate Stone XVI.—Close up to the S.W. corner of Stone XV.; lies flat, with smooth surface; original position doubtful. Length, 2.2 feet; width of S.W. edge, 1.5 foot; thickness, 0.65 foot.

Standing-stone XVII.—Leans outwards very slightly; fairly smooth surfaces; slight tussock. Height, 1.35 foot; basal width, 1.9 foot; thickness, 0.65 foot.

Standing-stone XVIII.—Small stone or large stump; upright; fairly smooth inner face; slight tussock. Height, 1.2 foot; width, 1.4 foot; thickness, 0.6 foot.

Standing-stone XIX.—Large stump, apparently broken off at top; leans towards the W.S.W. to the extent of about 60 degrees with the ground; flat inner surface; depression on W. and slight tussock. Height, 1.45 foot; width, 1.75 foot; thickness, 0.55 foot.

Prostrate Stone XX.—Fallen in a N.W. direction; slight depression on W. Length along S.W. side, 4.1 feet; width, 1.9 foot; thickness, 1 foot.

Standing-stone XXI.—Leans in an E. direction at an angle of about 80 degrees with the ground; tapers upwards to almost a sharp edge at top; fairly flat face on outside; slight tussock. Height, 1.3 foot; width, 2.9 feet; thickness, 1 foot.

Standing-stone XXII.—Falling outwards, but not completely prostrate, being at an angle of about 30 degrees with the ground; flat and smooth surface. Length, 1.9 foot; width, 1.3 foot.

Standing-stone XXIII.—Upright stump, broken off with flat clean fracture at the top; tussock. Height, 1.05 foot; width, 2 feet; thickness, 0.75 foot.

Stone XXIV.—Perhaps not in its original position; lies sloping off to the ground on the N.N.E.; at S.S.W. end it is thick and hangs over deep depression of Stone XXV. Length, 2.8 feet; oblique width, 1.3 foot; thickness, 0.8 foot.

Standing-stone XXV.—Leans to the W. at an angle of about 60 degrees with the ground; flat and fairly smooth face on E.; inner face rougher; surrounding tussock, and deep depression on N.W., W. and S.W. Height, 2.55 feet; width, 3.45 feet; thickness, 0.85 foot.

Prostrate Stone XXVI.—Two parts perhaps of one stone, but it is doubtful whether they belong to the circle, and they may have been packing-stones for the support of Stone XXV.; they lie in the depression to the W. of Stone XXV. Length of the two pieces together, 2.6 feet; width, 0.9 foot.

Stone XXVII.—Triangular stone with three flat faces tapering to a blunted ridge at the top. Height, 0·8 foot; S.E. side, 2 feet long.

Standing-stone XXVIII.—Probably a large stump; leans outwards at an angle of about 70 degrees with the ground; flat inner face; tussock on W., S.W. and N.; deep depression on the N. and N.W. in continuation of that from Stone XXV. Height, 1·15 foot; width, 2 feet; thickness, 0·5 foot.

Standing-stone XXIX.—Leans outwards very slightly; flat and fairly smooth inner face. Slight tussock on the W.; on E. much gorse growing against the stone. Height, 1·95 foot; width, 2·85 feet; thickness, 0·45 foot.

Prostrate Stone XXX.—Fallen in a N. direction, but not actually prostrate; it rests on a tussock at an angle of about 25 degrees with the ground; surface fairly flat. Original height, about 2·6 feet; width, 1·7 foot; thickness, 0·9 foot.

Prostrate Stone XXXI.—Small stone just showing above the turf; its S.E. end close up under the N. part of Stone XXX.; its original position is uncertain. Length, 1·9 foot; width, 1·5 foot.

Standing-stone XXXII.—Leans very slightly outwards; smooth flat inner face; slight tussock and depression on the inner side. Height, 2·2 feet; width, 2·9 feet; thickness, 0·9 foot.

Prostrate Stone XXXIII.—Fallen inwards apparently, but not completely prostrate, being about 20 degrees with the ground; rough surface; surrounding tussock. Original height probably about 1·8 foot; width, 1·55 feet; approximate thickness, 0·7 foot.

Prostrate Stone XXXIV.—Small stone almost touching the N.E. margin of Stone XXXV.; maximum height above turf, 2 inches; length, 2·5 feet; width, 0·9 foot.

Standing-stone XXXV.—Leans in a N. direction at an angle of about 70 degrees with the ground; narrow flat slab of quadrangular section; perhaps large stump; surrounding tussock with much gorse against the outer face. Height, 1·6 foot; basal width, 2·1 feet; thickness, 0·55 foot.

Standing-stone XXXVI.—Leans very slightly inwards; a piece appears to have been broken off the top; quadrangular section; surrounding tussock, and much gorse growing up the outer side; deep depression on the W., N.W. and S.W. Height, 2·05 feet; width, 2·2 feet; thickness, 0·95 foot.

Standing-stone XXXVII.—Leans inwards in a N.N.W. direction at an angle of about 80 degrees with the ground; general section quadrangular; fairly flat faces; outer face slightly concave; surrounding tussock. Height, 2·25 feet; width, 2·8 feet; thickness, 0·8 foot.

Prostrate Stone XXXVIII.—Large prostrate block of granite heeling over a little towards the S.S.E.; fairly smooth flat surface. Length, 5·8 feet; width, 1·85 foot; thickness at N. end, 1·05 foot. On either side there is a small stone, not numbered. The E. one measures 1·35 foot by 0·9 foot, and shows about 0·3 foot above the turf. The other is a flat thin slab which can be rocked a little; dimensions, 1·9 foot by 1·7 foot. They were perhaps packing-stones for the support of Stone XXXVIII when erect.

Standing-stone XXXIX.—Leans towards the N. at an angle of about 75 degrees with the ground; slight tussock, and depression on the N. side. Height, 2.1 feet; width, 2.5 feet; thickness, 0.6 foot.

Stone XL.—Large stump or stone fallen in an E. direction; upright, surrounded by a clump of grass and gorse. Height, 1.15 foot; width, 2.9 feet; thickness, 1.3 foot.

Standing-stone XLI.—Leans onwards at an angle of about 75 degrees with the ground; triangular stone; fairly flat, inner face; slight tussock, and depression on S. and S.W. Height, 1.7 foot; basal width, 2.3 feet; thickness, 1 foot.

Standing-stone XLII.—Probably a stump with flat top; it is loose; slight tussock, except on the S. where there is a depression belonging to the large Stone No. XLIII. Height from the bottom of the depression, 1.5 foot; width at top, 2.15 feet; thickness, 0.7 foot.

Standing-stone XLIII.—Leans outwards at an angle of about 50 degrees with the ground; it overhangs a deep depression on the S., S.E. and S.W. supported to some extent by a tussock, but it is likely to fall in the near future; the sides of the stone taper upwards to a rough point; in section it is triangular. Original height, probably 3.3 feet; width on inner face, 2.7 feet; thickness, 1.3 foot.

Standing-stone XLIV.—Small stone touching the W. margin of Stone XLIII.; it has the appearance of having fallen in a S.S.E. direction into the W. side of the depression of Stone No. XLIII. Length, 1.95 foot; width, 0.9 foot. There is another half overgrown stone, extending from No. XLIV. in a W. direction, the latter partly overlapping it. Length from Stone XLIV. 1.5 foot; width, 1.1 foot.

Standing-stone XLV.—Upright; fairly smooth faces; slight tussock. Height, 1.5 foot.; basal width, 2.6 feet; thickness, 0.5 foot.

Prostrate Stone XLVI.—This and the next stone were overgrown by gorse, which had to be cleared; it may have fallen in a W.N.W. direction; fairly flat upper surface. Length, 3.8 feet; width, 2.2 feet; approximate thickness, 1 foot.

Prostrate Stone XLVII.—Has probably fallen inwards in a N.N.E. direction; smooth surface but not flat; lies a little higher at the S. than at the N. end. Length, 4.5 feet; width, 2.05 feet; thickness at S. 1 foot.

Prostrate Stone XLVIII.—Irregular block, lying in a N.N.E. and S.S.W. direction; loose; it had to be entirely cleared of turf and gorse. Length, 3 feet; width, 1.75 foot.

Prostrate Stone XLIX.—Flat thin slab, also overgrown as the last. Length, 2.5 feet; width, 1.7 foot.

Prostrate Stone L.—Had to be cleared of thick gorse to reveal the outline and size; fairly flat surface sloping slightly to the E. Length, 3.5 feet; width, 2.5 feet.

Prostrate Stone LI.—Has fallen in a N.E. direction and rests at an angle of about 15 degrees with the ground, the highest point being on the N.E.; fairly flat surface. Length, 3.6 feet; width, 2.3 feet.

Standing-stone LII.—Leans inwards at an angle of about 78 degrees with the ground; thin for its length and width; fairly flat outer face; deep depression on E. and N. with rushes growing in these parts. Height, 3.1 feet; width, 4.4 feet; thickness, 0.7 foot.

Prostrate Stone LIII.—Outside and almost touching Stone LII.; long and narrow; may have been placed there to pack in the much larger stone; just shows above turf. Length, 2.45 feet; width, 0.6 foot.

Prostrate Stone LIV.—Lies on the N.W. slope of the depression on the inner side of Stone LII.; fairly smooth surface; slopes off rather sharply towards Stone LII. Approximate length, 2.5 feet; width, 1.8 foot.

Prostrate Stone LV.—Lies almost level; appears to have fallen in a N.N.E. direction; fairly smooth flat surface; the N. and N.E. end was entirely overgrown, but it is now cleared. Length, 4.3 feet; width, 2.9 feet.

Standing-stone LVI.—Leans very slightly towards the W.; narrow, thick stone and high in proportion; quadrangular section; fairly smooth faces all round; deep depression on S.W. W., N.W., and N.; tussock on all sides. Height 3.55 feet; width, inner face, 1.6 foot; thickness, 1.85 foot.

Stone LVII.—Small pointed stone close up to the outer side of Stone LVI. and is probably a support; angular outer face. Height, 0.8 foot; width, 1.55 foot.

Stone LVIIa.—Flat rounded stone close behind and a little to the S.W. of Stone LVII. partly overgrown. Approximate dimensions, 1.8 foot by 1.8 foot.

Prostrate Stone LVIII.—Fallen outwards in a S.W. direction, lying horizontally with a central ridge from which the stone slopes off to the ground both ways; it was found much overgrown. Length, 4.2 feet; width, 2.5 feet.

Standing-stone LIX.—Stands almost upright in a deep depression all round, leans very slightly towards the W.N.W.; stone narrows considerably towards the top; all the faces but the inner one are fairly flat; tussock on all sides but the S.E. Height, 3.55 feet; width, 1.5 foot; thickness, 1.25 foot.

Standing-stone LX.—Upright; perhaps a stump; depression to S. only. Height, 1.4 foot; basal width, 2.7 feet; thickness, 0.65 foot.

Prostrate Stone LXI.—Rough stone not lying quite flat; appears to have fallen outwards; it was almost entirely overgrown, and had to be cleared. Length, 2 feet; width, 1.4 foot.

Stone LXIa.—Small stone only just visible at the N.E. and N. Dimensions, 2 feet by 1.5 foot.

Standing-stone LXII.—Small upright stone with encircling tussock; quadrangular section. Height, 1.85 foot; width, 1.35 foot; thickness, 0.65 foot.

Prostrate Stone LXIII.—Lying nearly flat but sloping off slightly towards the S.; fairly smooth surface; much overgrown on the S. and E. Length, 3.1 feet; width, 1.8 foot.

Standing-stone LXIV.—Leans towards the W.S.W. at an angle of about 58 degrees with the ground; deep depression on W.S.W. and N.W.; tussock all round; in danger of early prostration; stone of triangular outline; inner face fairly flat and smooth. Original height, about 3.8 feet; basal width, 4.5 feet; thickness, 0.9 foot.

Prostrate Stone LXV.—Appears to have fallen inwards in a S.E. direction; was entirely overgrown and had to be cleared; fairly flat but rough surface. Length, 2.2 feet; width, 1.6 foot.

Standing-stone LXVI.—Leans very slightly outwards to the W.S.W.; outer face slightly

convex; fairly smooth and flat inner face; high surrounding tussock, and slight depression; Height, 2·4 feet; width, 2·2 feet; thickness, 0·7 foot.

Standing-stone LXVII.—Upright; fairly smooth inner face, slightly convex; slight depression on W. and tussock all round. Height, 2·35 feet; basal width, 2·55 feet; thickness, 1·1 foot.

Standing-stone LXVIII.—Large stump or small stone; leans outwards *slightly*; fairly flat and smooth faces; tussock all round. Height, 2 feet; basal width, 2 feet; thickness, 0·65 foot.

Standing-stone LXIX.—Leans inwards slightly; triangular in plan; fairly flat and smooth inner face; deep depression between this stone and Stone LXX.; surrounding tussock. Height, 2 feet; basal width, 2·55 feet; thickness, 1·5 foot.

Standing-stone LXX.—Leans slightly towards the S.W.; triangular in plan; fairly flat and smooth inner face; high surrounding tussock and deep depression especially on the S. and S.W. Height, 2·4 feet; width at top, 3 feet; thickness, 1·8 foot.

Prostrate Stone LXXI.—Entirely covered with gorse on my visit; fallen outwards in a N.W. direction, and now lying horizontally. Length, 3·45 feet; width, 2 feet.

Prostrate Stone LXXII.—Same remarks apply to this stone as to No. LXXI. Length, 4 feet; width, 2·2 feet.

Standing-stone LXXIII.—Leans outwards slightly in a N.W. direction; rough faces all round; rough top; quadrangular section; surrounding tussock; depression on W.N.W. and N. Height, 2·15 feet; basal width, 3·1 feet; thickness, 1·25 foot.

Prostrate Stone LXXIV.—Leans outwards in a N.W. direction at an angle of about 82 degrees with the ground; pointed top; it has probably the flattest inner face of any of the stones in the circle; fairly flat outer face; slight tussock on N.W. face and S.W. edge. Height, 2·3 feet; width, 2·65 feet; thickness, 0·75 foot.

Standing-stone LXXV.—Small stone, or large stump, with fairly flat top; leans outwards at an angle of about 80 degrees with the ground; faces fairly smooth and flat; tussock especially on W.N.W. and N. Height, 1·4 foot; basal width, 2·65 feet; thickness, 0·85 foot.

Standing-stone LXXVI.—Small stone or large stump; upright; rough, ragged top; rough outer face; gorse grows up the inner face. Height, 1·6 foot; width, 2·7 feet; thickness, 1 foot.

Standing-stone LXXVII.—Leans outwards at an angle of about 78 degrees with the ground; large, flat, smooth-faced stone, but on the outer face a little convex; tussock and depression on the outside and at the ends. Height, 2·35 feet; basal width, 3·85 feet; thickness, 0·95 foot.

Prostrate Stone LXXVIII.—Entirely covered with gorse on my visit; lies almost horizontally in a N.W. and S.E. direction; the exposed surface slopes off to the ground at a rather sharp angle in a N.E. direction. Approximate length, 5·2 feet; width, 1·5 foot.

Prostrate Stone LXXIX.—Of diamond plan, to the E. of the centre of the circle and probably like Stone LXXVIII. not in its original position; fairly flat surface sloping off towards the W. rather considerably. Length, 3·7 feet; width, 2 feet.

II.—*On an Inventory of the goods of the Collegiate Church of the Holy Trinity, Arundel, taken 1st October, 9 Henry VIII. (1517). By W. H. ST. JOHN HOPE, Esq., M.A.*

Read 23rd January, 1908.

IN the days of King Edward the Confessor there was in Arundel a church dedicated in honour of St. Nicholas, which at the time of the Great Survey received from the tithes of Arundel 24s. a year. The clerks of St. Nicholas also held six hides of land in Harting, and "so it was in the time of King Edward."

In 1071 Earl Roger of Montgomery, the builder of Arundel Castle, had given to the Abbey of St. Martin at Seez certain lands in Sussex and elsewhere, and a small cell of that house, consisting of a prior and four other Benedictine monks, was afterwards established at Arundel, apparently in 1102. This alien priory had at first no connexion with the parish church of St. Nicholas, and its buildings did not adjoin it. It does not seem to have been a prospering foundation, and gradually dwindled in numbers till only the prior remained.

Such was the state of things in 1178. In that year the rectory of Arundel became vacant, and was conferred by the Earl as patron upon the solitary prior, who was thus enabled to re-people his house. Following upon this change of affairs, the monks moved from their old buildings to a new site adjoining the parish church, which henceforth became divided, the priory taking for their quire the chancel that belonged to them as rectors, and the parish retaining the rest of the church.

The Castle of Arundel at this time had its own chapel, dedicated in honour of St. George, and served by one chaplain, who in 1272 was receiving £4 a year.

It is not necessary to follow the history and descent of priory or castle until the middle of the fourteenth century, when the castle was held by Richard FitzAlan, the fourteenth Earl of Arundel, who had succeeded to his father's inheritance, after a long attainder, in 1331. This earl, as one of the conditions of a dispensation granted to him on his second marriage with Eleanor, daughter of Henry Earl of Lancaster, in February, 1344-5, for certain irregularities involving consanguinity, had been directed to found a chantry of three chaplains in the parish church of the earl's principal place,^a but on petition of the earl and countess the place of the chantry was shortly afterwards changed to the chapel of his castle of Arundel.^b Nothing further seems to have been done to found the proposed chaplaincies until 29th February, 1354-5, when Pope Innocent III. issued a faculty to the bishops of Winchester, Rochester, and St. Asaph to promulgate statutes and ordinances for a college of priests and clerks, presided over by a master, erected and endowed by Richard, Earl of Arundel, in the chapel of his castle, in which the ecclesiastical sacraments may be ministered to the said earl, his wife, children, and domestics, the rights of the parish church and of any other being reserved, and the patronage reserved to the said earl and his successors.^c

This scheme in its turn was not proceeded with, and it was not until 1375 that Earl Richard procured on 20th July the necessary licence in mortmain to set apart an annual rental of 107 marks arising from some of his manors for the maintenance of certain chaplains and clerks whom he had ordained and disposed to serve a certain chantry founded by the said earl in his chapel of Arundel.^d But before the formalities for the founding of the new chantry could be carried further the earl fell sick, and on 24th January, 1375-6, he died.

By his will,^e dated the previous 5th December, Earl Richard left full directions to his son and successor, and devised 1,000 marks wherewith to buy lands of the annual value of 107 marks, for the maintenance of six chaplains and three

^a *Calendar of entries in the Papal Registers relating to Great Britain and Ireland. Petitions to the Pope*, i. 75.

^b *Ibid.* i. 99.

^c *Calendar of entries in the Papal Registers relating to Great Britain and Ireland. Papal Letters*, iii. 573.

^d Patent Roll, 49 Edward III. part i. m. 3.

^e Reg. Sudbury, f. 92 b.

boys, or clerks, serving daily in the castle chapel. They were to be housed in the north bailey of the castle, in the new tower called Beaumont Tower, or other lodging to be built for them at a cost of £100 or 200 marks. Each chaplain was to have £10 a year, and each boy 4 marks. The sixth chaplain was to be master and have 20 marks more.

At this time the alien priory of Arundel seems again to have been reduced to the prior, on account of the king's demands upon it for carrying on the war with France, and little persuasion was needed to induce the Abbey of Seez to withdraw all claims. Letters patent were accordingly granted to the new earl (also a Richard) on the 1st April, 1380, for the annulling of the priory of Arundel and founding the chantry provided for by his father.^a With the assent of the executors a change was made in the proposed arrangements, and instead of the foundation in the castle chapel a college of six secular chaplains was instituted in the parish church of St. Nicholas, in the room of the displaced prior and convent. To these six chaplains seven others were added by the earl, the thirteen of course typifying Christ and his twelve Apostles. The new college received episcopal confirmation a month later, and in the statutes drawn up in 1387 it is said to have been founded in honour of the omnipotent Trinity, the glorious Virgin Mary, and all the Saints. Besides the master or warden and his twelve fellows the college was to include two deacons, two subdeacons, and two collets, as well as four poor boys called choristers.^b

Inasmuch as the whole of the rights and privileges, including the rectory, formerly exercised by and belonging to the prior and convent, were transferred to the new college, the quire or structural chancel of the parish church, which had served as the church of the Benedictine monks, became the quire or church of their successors. But a building that had sufficed for a handful of monks could hardly have been large enough for a body exceeding a score in number; the old chancel was accordingly pulled down and rebuilt on a grander scale as a quire and presbytery of five bays, with a wide Lady Chapel of three bays on its north side. The rebuilding of the rest of the church followed, and it now shows a middle tower, north and south transepts, and a nave with clerestory and north and south aisles of five bays, with north, west, and south porches. The parish altar of St. Nicholas stood in the south transept, and in the north transept was

^a Patent Roll, 3 Richard II. part iii. m. 12.

^b For the text of the Statutes, see M. A. Tierney, *The History and Antiquities of the Castle and Town of Arundel* (London, 1834), ii. 752-772.

an altar of St. Christopher. Other altars were also placed in the aisles. New buildings for the accommodation of the college were set up to the south of the quire on the site of those hitherto occupied by the convent.

Of the later history of the building little need be said. In 1511 a dispute arose between the College and the parishioners as to which was liable for the repair of those parts of the church which are commonly called *the crosse partes*, leading from south to north through the middle between the quire and the nave of the church, together with the middle part itself and the belfry built above it for the bells. It was decided by Thomas, Earl of Arundel, and Robert (Sherbourne) Bishop of Chichester, the arbitrators, that the burden of the upkeep and repair of the south transept of the said church, "which is commonly called the parish chancel," pertained to the Master or Warden and Fellows of the College and their successors for ever, that the upkeep and repair of the north transept and of the nave and its aisles pertained to the mayor, burgesses, and parishioners, and of the crossing and belfry to the college and parish jointly.*

On 12th December, 1544, the Master and Fellows surrendered the College and all its possessions and buildings, including of course their quire and chapels, into the hands of the king, and thus the College came to an end. In consideration however of the sum of 1,000 marks, everything that had been surrendered by the College was granted a fortnight later on 26th December to Henry Earl of Arundel, and his descendant Henry Duke of Norfolk is thus to-day in full and legal possession of the quire of Arundel church.

This beautiful building, although it has undergone many vicissitudes, has fortunately escaped destruction, and still stands complete, with its original High Altar and Lady Altar in position, as well as a third stone altar in the vestry behind the reredos.

The inventory of the College which forms the subject of this paper was lately placed in my hands by our Fellow, Mr. Leonard Lindsay, to whom it had been entrusted by Dr. Stewart, the Duke of Norfolk's librarian at Arundel.

It is written in a somewhat pale ink on a parchment roll 9 feet $10\frac{1}{2}$ inches long, with an indented heading, and is composed of five membranes stitched together, with an average width of $10\frac{5}{8}$ inches. The membranes measure respectively $31\frac{3}{8}$, $30\frac{1}{2}$, $17\frac{1}{2}$, $28\frac{1}{2}$, and $14\frac{1}{2}$ inches.

With the exception of the heading, which is in Latin, the inventory is written throughout in English, with very few erasures or additions. But it contains

* Reg. Sherbourne, i. f. clv.

strong internal evidence of being a redaction, or of having been transcribed and translated from an older roll which had many interlineations and additions.

The heading, if rendered into English, runs :

This Inventory of the goods of the Collegiate Church of the Holy Trinity, Arundel, and of all the things which are contained in the same, was examined on the first day of the month of October in the ninth year of the reign of King Henry the Eighth by master Henry Edyall, warden of the same college, and for his Inventory confirmed and delivered.

There is a curious mistake in this heading. According to Bishop Sherborne's Register, on 28th August, 1517, Doctor Edward Hygons was admitted to the office of master, then vacant by the natural death of Master Henry Edyall, the last master. It is obvious therefore that the scribe who copied out the inventory (probably from that made for Edyall on his admission in 1501) omitted to substitute for his name that of his successor, since there can be no doubt that the present inventory is the one made for Doctor Hygons on his appointment as master.

The contents are classified for the most part under marginal headings, and fall into four main groups: (1) service books, (2) plate and jewels, (3) altar cloths and vestments, and (4) books for the use of the College.

The service books divide themselves fairly well into their proper series. The list begins with the "missalles," a "gospellar," and a "pistelar," used at mass. Then come the books for the hour-services, viz. the legends, antiphoners, portoses, and "leggers"; the manuals used for the occasional offices; a collectar; and the martiloges read daily in chapter. The grayles which follow should have been included in the first series. Next come the ordinals, then the processionals and quires, and after them the organ books. The list ends with a Catholicon and a Hugucyon which were chained "in the quere," and a bible "for to rede on in the hall" during meals.

The twelve volumes included under the heading "Missales" are described indiscriminately either as such, from the Latin *missalia* of an earlier list, or by the more usual English term "mass-book," which is applied to the later additions; and as a means of identifying them, the first word, or part of a word, that begins the second leaf is carefully recorded. The first on the list is "a new great missall withoute note," i.e. without any musical notation, with silver-gilt clasps and enamelled shields of the Instruments of the Passion. From the fact that "it lackyth a burdon of sylver with a plate," we likewise learn that it was decorated with silver studs or bosses for the protection of the leather bind-

ing. The next is "an olde myssal noted," "whiche booke ys callid the Frenche masbooke"; it, too, had silver-gilt clasps, but "the oon clapse lackyth halfe." The third volume, "an olde lytyll masebooke" had been "notid new for the high auter." The fourth missal, a noted one with "clapsis of coper overgilt" and "lackyng a burdon," is entered as "for the chapell of the Castell," and the sixth, "a missall noted all defectyfe," was on that account "*remanens in Castro*." The fifth is described as "a litell Massebooke for petthes auter," but there does not seem to be anything known of such. It probably belonged to a chantry founded by one of the Pett family.

The next item again points to an earlier original of the inventory under notice: "A *neue* masseboke . . . of the gift of Sir William Whight late maister." but Sir William White died in 1419, nearly a hundred years before. Of the remaining books, one was for use in the chapel at the Mary Gate, another belonged to the brotherhood of St. Christopher, probably for use at the altar of that saint in the north transept of Arundel church, and another had been seized for a mortuary on the death of Sir Esperaunce Blondell, a rector of Sutton, who died about 1450 and was buried in the Lady Chapel, where his brass remains. The list concludes with "an olde masse booke" and "a litell massebooke with pecular masses," probably those known as votive. The gospel-book is described as "not noted," and the epistle-book as "an olde pistelar conteynyng in hymselfe a noted grayle." The four legends, or books of the long lessons used at mattins, actually formed two sets, each of two volumes, one containing the *temporale*, the other the *legenda sanctorum*. The list headed "ligers antiphoners portos and manualles" begins with "ij smale books of oon . . ." the description of which is obliterated through a stain, followed by the words "an hoole portos either of theym havynge a sauter . . ." the rest of which is gone through the stain.

The first of the antiphoners, or anthem books, had lost its silver clasp. Of a set of five that follow, one was for "the chaunter," the rest for the "preestes and clarkes."

Of the breviaries or portoses, the first, though described as "an olde portos," was "callid the best booke." Two large noted portoses, which could not be carried about, but had to lie on a desk, and were hence called "leggers," are entered as lying before the master and submaster respectively. Each included a legend also.

The four books that follow were all old. One was "unhelyd," that is, had lost its covers; another was without clasps and in the vicar's keeping; a third bore the name of Cokhardy, and had been given by a former master, Sir John Colman; and the fourth, described as "an olde Manuall . . . conteynyng dyverse

masses" was also in the vicar's hands. Since the vicar was more likely to use a manual for the occasional offices than the master or fellows of the college, he had also "a newe Manuall" lately given by Sir Thomas Dene. The list concludes with another "newe manuall."

The next section begins with "iiij martilages wherof oon is without sentences," and is followed by a "collectari" and an old psalter called "the Whight Sawter," probably from its white leather binding."

Of the eleven grayles, or books of introits and graduals sung at the altar steps, two little ones belonged to the Lady Chapel. Of the rest one is called a "frenche Graile," and another "a fair grayle," probably on account of its superior writing and notation.

Of the two ordinals, one was "cheanyd," but where is not stated; the other is called "newe," though given by Sir William White, the second master, at least a century before.

The processionals are divided into (1) fourteen, described as "writted and noted," two of which were at Downley, a hunting seat of the FitzAlans; and (2) "ij processionales printed," probably the Rouen edition of 1508. With them were "ij quayers of the whiche oon begynnyth *pueri hebreorum*," i.e. the anthem in the Palm Sunday procession, "with other dyverse processions"; and a note is added *pro istis duobus quaternis habent unam processionem*, which suggests that they had been exchanged for a processional. There was also "a booke with the Invitatorys and the versiculis noted."

The organ books included an old one "bunde with bordes," and a new one "of the gift of Sir John Grendon, parson of Westborn;" also "an old Quayer noted with placebo and Dirige" given by Sir R. Russell.

The first of the articles of plate is "a hart of silver and gilt with a pece coverde gilt" weighing 56 ounces, but "lackyng the knappe weying iiij unces." What this could have been is uncertain. The association of a "hart" with a covered piece suggests a figure like the White Hart of King Richard II. lodged beneath a cup wrought in manner of a tree. The only alternative seems to be a heart-shaped vessel with a lid. Inasmuch as the piece follows the "bibyll for to rede on in the hall" it may have been an ornament, perhaps the great standing salt, for the high table.

The church plate proper begins apparently with a list of six pieces described as "tabernacles." These were in no wise receptacles for the reservation of the Blessed Sacrament, which in England was kept in a hanging pyx, but simply reliquaries, like the "Tabernacles with Relics" of the Lincoln inventories. It is

curious, however, that in three cases the description of the relics has been struck through, as if they had been taken out of their cases. The first was "a brode tabernacle of silver and gilt and enamyld with a crucifixe of Mary and John Petre and Poule with ij Scocheons lackyng in the corners above." As it weighed 151 ounces it must have been a splendid object. The second was a gold one, and had apparently been made for a monstrance, since it had "vij wyndowes of birell for the sacrament." But later it had been converted into a reliquary, and is "nowe with a bone of Seynt Lawrence." It lacked "ij pynnales and a knoppe." The third was another grand piece, described as "a greate tabernacle of Silver and gilt, with a crosse of the holy crosse and many other relikes, and ij owches of gold with a popyngay of gold and grene enameld hangyng in the pynnales . . . and the armys of Arundel, weyng CClj unces." The two owches "remayneth yn the cofir. with the comen seale." The fourth tabernacle was "of silver and gilt beryng two relikes of Seynt Ethelrede,"^a and with it was "a litell cristall with a pynnales of silver and gilt conteynyng a pece of the tabill of our lorde weyng vj unces." The fifth tabernacle was an old one "enclosed with a crucifix with Mary and John within, and the gisyn^b of our lady and other imagery, all of moderperyll, and all to broke." This was apparently a triptych with a picture of the Crucifixion inside, and on the covers the Nativity and other subjects. The last of the tabernacles is described as "standyng of iij fete with a relike in cristall and a crucifix with Mary and John and the iiij evaungelistes, all gilt except the Image of our lorde."

There were also two "Tabilles": one of silver and gilt, "with a thorne of the crowne of our Lorde and other ij relikis of our lady and of Mary Magdalene"; the other "a litell long tablet of gold with Seynt George on the oon side and a litell pott on the other side, with a blake lace," apparently for hanging it by.

Following the "Tabilles" is a list of three crucifixes. The first was a "litell crucifixe of golde with a pece of a thorn of the crowne of Crist, whiche Nicholas Hunte of Slyndon gafe to the college of Arundell." The next was in the submaster's hands, and is described as "a greate Crucifixe of silver and gilt uppon the resurrection enameld lackyng half a fote . . . in the oon end lackyng. Also ij diademes of Mary and John." The third crucifix was also "of silver and gilt, with a fote enameld with asure and grene with Mary and John, with peryll and other litell stonys, the whiche foote stondeth on vj lyons." The foot is further described as lacking "xxvj perlys and a blew stone and his grene enamel."

^a *Sic.* probably for "Etheldrede."

^b Gisyn = O.F. *gesina*, childbed.

Three other fine crucifixes are enumerated. The first was of silver and gilt, and had "a greate foote . . . and a birell and a Cressaunt for the sacrament." It therefore served as a monstrance. The second crucifix was accompanied by the usual figures and placed "upon a long foote beryng above the foote a birell stuffed with dyverse relikes"; it too may once have been a monstrance. It is noted as "lackyng the poyntes of iij flowres delice viij stonys and the diademe of Johns hede," which enables us to realize a little more of its appearance. The third crucifix, which is noted as being *in manibus Domini Thome de Arundell* was a great one of silver and gilt "with Mary and John with a greate foote enameld beyng uppon iij lyons lackyng muche of his enamell."

The crucifixes are followed by an interesting list of "Ymages."

The first was appropriately "an ymage of the Trinite of sylver and gilt with a crosse of sylver and gilt, with a bone of Seynt Stephyn hanging aboute the necke of the seid Image with a blake lace of sylke." It is noted as "lackyng iij pynnys of sylver under the foote."

The second was "an Image of Seynt John of Beverle of silver and gilt beryng a bone of the seid Seynt John in a tabernacle of birell"; "ij labells of the Mitre" are noted as being in the hands of the sub-master.

St. John of Beverley was the famous Bishop of York to whose intercession King Henry V. ascribed his victory at Agincourt, when so strenuous was the saint's help in aid of his countrymen that his tomb at Beverley was reported actually to have sweated in consequence!* As John FitzAlan, the eighteenth Earl, whose beautiful effigy is still at Arundel, was among those who fought at Agincourt, he may have given St. John's image to the College of which he was patron.

The next on the list is described as "an ymage of sylver and gilt of the Archebisshoppe the hede & the mytre of gold couched with perlis and other stonys . . ." The rest of the entry, excepting the final words "a knoppe behynde," has subsequently been roughly but effectually erased, which suggests that the archbishop was St. Thomas of Canterbury. The description of another image which followed has been treated in the same drastic fashion.

Next come "ij ymages of petre and poule of sylver and gilt with scochons on the fete." There was lacking "of the ymage of poule . . . a pynne of

* See the ordinance of Archbishop Chichele concerning the celebration of the feast of St. John of Beverley, printed by Wilkins in his *Concilia Magnae Britanniae et Hiberniae* (London, 1737), iii. 379.

sylver under the fote and the bokyll of his swerde, and the keys of petre." These fragments were apparently *in cista cum communi sigillo*. Last on the list is "an aungell of silver and gilt stondyng upon iij lyons under the fote and the wenges enameld beryng a closure of birell with relikes." It is noted of this beautiful object: "the wenges lackyng of their enamell."

The chalices enumerated were eight in number, and all of silver and gilt. Five had the usual Crucifixion engraved on the foot, but a sixth, like the well-known example at Leominster,^a had "written in [the] foote **Ihc xpus**," and round the bowl "**benedictus qui benit in nomine domini**." As this particular chalice is entered as the gift of the countess Joan, mother of Sir William Arundel, who died after 1487, it can be approximately dated. Of the patens, four had for device a Majesty, two had vernicles, and another a hand. The patens with the vernicles belonged to "ij newe chalices,"^b and are described as having "the swages"^c and the vernicles "overgilt." The eighth chalice was "by the ordenance of Sir Thomas Dene And the keypyng thereof to be in the College." It is noted as being in the church at the altar of St. Christopher, where the mass book given by the same donor to St. Christopher's brotherhood was probably also used.

Included in the list of chalices are two other ornaments. The one is "a cuppe with a cover of a Gripis egge with a foote of sylver and gilt." This was of course an ostrich's egg with metal mounts, and its frailty accounts for the added note "the cover is broke." The other vessel was "a boxe of sylver for singyng brede."

Of paxes, or "paxbreds" as they are called, there were two, both of silver-gilt. The one is described as "of sylver and gilt enameld and stuffid with viij triangelis stones" and as "lackyng a pynn of sylver with the hede of a rose." The other was a "brode paxbrede of sylver and parte gilt with a crucifixe of Mary and John." It is further noted as "greatly defected," but, as its fellow was *remanens in cista*, it must notwithstanding have continued in use, unless the College did without one.

^a *Archaeologia*, xxxv. pl. 21.

^b By his will, dated 10th March, 1497-8 [P.C.C. 19 Horne], John Neele, master, bequeathed "Collegio Arundell quadriginta libras sub condicione sequenti quod fant duo calices ad usum ejusdem Collegij ex predicta summa ad valorem viginti marcarum in memoriam nominis mei." Possibly the two new chalices were those made in accordance with this bequest. (I am indebted to Mr. R. Garraway Rice for this extract.—W. H. St. J. H.)

^c *I.e.* the embossed parts.

The next entry is a single one: "Item a great owche of sylver and gilt stuffed with stones for a cope."

A list of "Basyns" follows. These were for washing the hands of the priest at mass, and are usually found, as here, in pairs, water being poured from one into the other. The first pair were "of sylver and gilt, enameld in the rosis with wedwosis and a condyght of the gifte of William Rede Bisshoppe of Chichester." The "condyght" was the spout which was sometimes attached to the pouring bason. The donor's correct name was Robert, and he was bishop from 1397 to 1415. The second pair were "playn bassyns of silver" with gilt "swages," but the "pype" had been broken off and was *remanens in cista*. The third pair were of silver-gilt with roses "gravyd . . . withe the salutacion and the assumption"; "the oon" was "defectife in the swages" or borders. The fourth pair were of silver with gilt swages "with ymages of the maieste in the rosis enameld"; and the last, a gilt pair, were "written with the armys of Arundell & Matravers" and given by the countess Joan.

The candlesticks enumerated in the inventory are referred to by the somewhat uncommon name of "chaundelers." First on the list is a pair described as of silver "enbosed in the mydyll staffe and the bosis and swages gilt, with vj square corners . . . embatelled above, with a pipe of sylver." A note is interpolated in the description "of the whiche oon is to broke," and another adds: *in manibus domini*, which looks as if the Earl were using them in the Castle chapel.

The next, "a rounde chaundeler of sylver embosid in the myddell staffe, and swages gilt and the bosis, and enbattelled above," was perhaps used as the Paschal candlestick. The next, "a greate paier of rounde chaundelers of latyn beyng uppon vj lyons before the high auter," were the usual standing candlesticks in that position. "A litell paier of rounde chaundelers of lattyn for childern" must have been those carried by the boys who acted as taperers in the Sunday and other processions. Another pair, or as they are described, "a paier of more rounde chaundelers of latyn" were "for our lady auter," but *non sunt inventi*, they could not be found.

There were also a "a paier of rounde chaundelers of sylver and gilt with rounde bollys in the myddyll stafe," and "a paier of long chaundelers with swages gilt and enameld with the armys of Herford, Wareyn, and Arundell."

Another solitary entry enumerates as being in the common chest, "xxxj Rynges for Rydelles," *i.e.* the short curtains or costers that hung at the ends of altars.

Of altar cruets there were three pairs. The first was a "paier of greate Cruettes rounde of silver and gilt," but they lacked their lids, which were kept in the chest. Another pair "of smalle rounde Cruettes of sylver with pypys, the swages gilt" likewise lacked "ij ledes and a pece of the pipe," which were *in cista*. The third was "a paier of vj square Cruettes parcell gilt," given by Master John Dudley.^a

There were two "sakeryng belles": a great one of silver with gilt swages; and another of silver, but plain and newly repaired.

The College was unusually rich in censers, five single ones and a pair being enumerated, all of silver wholly or parcel gilt. The first was "a greate sencer" embattled above, but "lackyng vj knoppys of a pynacle." The next was of silver with "the stepull and the swages gilt, graved above with a vyne." It is noted as "Defectif in the cheyne. Item brused in the foote. Lackyng vj pynacles and a greate ryng." The ring was in the submaster's keeping. The "ij sencers of sylver of oon sute" were probably used together on festivals, and are described as having "the swages gilt with libardes hedes gilt." They had evidently suffered much from use, for "that oon lakyth vj pynacles, and that other lackyth vj pynacles, and all the fynell of the wyndows of both sencers except oon fynell." The next item, a plain censer of silver-gilt, was also "lackyng vj pinnacles"; and the last, a silver censer with "the tabernacle and the swages gilt and enbattled above," was likewise "lackyng vj pynacles and a knoppe above a fenestre," and had "the foote departed from the boll."

For use with the censers was "a shippe for Incense of sylver with a dragons hede gilt, the hedes and the swages on the foote gilt, with a litell spon of sylver." This, too, had "the foote halfe broken away."

Of the three holy-water buckets, the first is described as "a greate holy watter bokett of Silver, with Bisshoppis in tabernacles aboute." There was also "a spryngell of Silver and gilt for the same," but this was "sumwhat foreworun in the hede in the whiche the handyll goith in." The Earl had the second, which was of silver with a "spryngell." The third, "a litell holy watter bokett of sylver," had gilt swages; with it was "a springell of sylver," but "all to broke,"

^a By his will dated 1st October, 1500 [P.C.C. 19 & 23 Moone] John Dudley of Atherington directs that his executors "do make for the same college church [of Arundell] a payre of cruets of silver of the valour of xls. and in the hedes of them myn armys and my wifes to thentent we shall there be remembred partners of their goode prayers." (I am indebted to Mr. R. Garraway Rice for this extract.—W. H. St. J. H.)

and the bucket was "defective in oon of the hedes and in the foote under the bothom."

There were also "ij peces of a Skaloppe Shell of sylver for salt" when the holy-water was made, but *expeduntur ad augmentum calicis fracte*, they are put to the mending of a broken chalice.

For the adornment of the image of Our Lady in the chapel at the Marygate there were "iij crownes of sylver and gilt, ij for the ymage of our lady . . . and a crowne of sylver and gilt for her sonne, the lasse crowne lackyng oon lefe and a stone." Likewise a "mantell of whight cloth of gold, with an owche and xxiiij Rynges, of the whiche oon is gold as it semyth."

The remainder of the plate included "a superaltare having a rede stone closed in sylver gilt above / the stone callid a Jasper, and broke in a corner, lackyng pynnys of silver underneth"; "a standing cuppe of silver with a cover gravyd with levys," "ij standyng masers with fete silver and gilt with ij covers of Maser, garnysed with silver gilt," and "a flat maser, with a bose and a violet Rose enamyld"; there also remained "a bande of a notte" or cocoa-nut with metal mounts.

The list concludes with the only added item in the inventory: "Item a byrell enclosed with gold with our lady mylke."

It will be seen from the foregoing description that the College was quite rich in plate, but as the list was not made with a view to future spoliation or robbery, it is only in a few cases that the weights are added. Many of the items are very interesting in themselves, but the most noteworthy feature is the extraordinary number of pieces which had some part "all to broke," or "lackyng," or "defectife," and the common chest must have contained quite a heap of loose or broken fragments.

There is also one other peculiar feature in the list of plate and jewels, that not a single pyx is included, nor any lamp to burn before the Blessed Sacrament contained therein. This may be accounted for by the fact that elsewhere in the church was the parish altar of St. Nicholas, over which the Sacrament would be reserved as a matter of course, and it may therefore not have been deemed necessary to reserve at the high altar of the college as well.

The long enumeration of altar cloths, vestments, etc. is divided into four subsections. Of these the first three are headed respectively "Auterclothes," "Auterclothes and Copys," and "Auterclothes Copys and Vestmentes." The rest of the list, which exceeds in length all the other three, has no heading.

By "altarcloths" is meant, not the linen coverings, but the embroidered or

woven cloths of more or less richness wherewith the altars were vested. They were often made in pairs: one was then hung on the wall behind and called the upper front, or, as occasionally here, the "over altarcloth"; the other was hung before the altar and formed the nether front, or what is now generally called the frontal. But the "fruntells" of our inventory were something different, being actually the fringed strips of embroidery which were sewn apparel-wise on to, and hung down from, the front edge of one of the linen cloths or "towels" laid along the top of the altar.

In the first part of the list the inventory includes, with the two altar cloths and the frontal and its towel, a complete set of the vestments that matched them in colour and material, viz. the apparelled albes and amices, the stoles and fanons, and the chasuble and tunicles for priest, deacon, and sub-deacon, with one or more copes, and occasionally a corporas and its case, a mantle for the collet, or a set of ridells or curtains for the altar ends.

The first subsection contains two items only. The one was for the high altar, and comprised "ij clothis of my lordes Armys," the upper front having "a crucifixe of Mary and John," and the nether, the Assumption of Our Lady, and "a frontell of golde damaske with a tewell." Of the same "sewte" or set were the usual vestments for the three ministers, "also ij Albis [and] ij amysis for the cruciferars" or cross-bearers. Neither the colour nor the material is stated.

The other item comprised two altar cloths of blue velvet embroidered with eagles of gold, "wherof the over auterclothe is enbrowderd with a maiste^a havng a Saphir in the brest"; a frontal of the same suit with a towel; a complete set of vestments for the ministers, and seven copes; and "a traunsome with ij Ridells of blew tartaryn powderd with Eglys of bete gold."

Under the heading of "Auterclothes and Copys" are a number of other blue vestments, including a full suit of cloth of gold for altar and ministers, a pair of frontals of baudekyn wrought with squirrels, birds, and branches, a cloth of bokeram for the altar with the Crucifix, Mary and John, and Peter and Paul, two cloth of gold copes called "floure delice," and a satin cope powdered with "sterrys of gold." What is described as "an old single vestiment" of course included all the things necessary for a priest, and was not simply a "syngle Chesible" like the one of "tartaryn blew enbrowdered with rosys of gold" entered as "all perusid and spendyd in amending other westmentes." The sub-

^a Majesty.

section concludes with a new single vestment of blue damask cloth of silver, which included a chasuble, stole, fanon, albe and amice, and a corporas case and corporas, "of the gift of Thomas Salman Esquyre."^a

The third subsection includes fourteen items, all, with one exception, of red colour. The exception is a set of copes of white damask which has apparently been wrongly interpolated. Owing to the number of saints' days on which red was worn every important church had a good store of red altar cloths and vestments, and the College of Arundel was in no way behind. The subsection describes twelve altar cloths, each with its frontal and towel, and nine of them had complete suits of vestments to match. There was also a tenth suit of red cloth of gold called "the Whit barrys," consisting of a "vestment for preest diacon and subdiacon with hoole apparell and a cope of the same sewte." Two of the suits had in addition a pair of ridells, and two others each a mantle for a collet. One red suit which was powdered with "lyons of gold" probably borrowed its devices from the FitzAlan arms; and this was certainly the case with the next item, which is described as "a vestiment of rede velvett enbrowderd with a great lyon of yelow velvett." Another "rede vestiment of sylke callid knottes" was probably powdered with Maltravers knots. One very complete suit "whiche servyth for the commemoration of the Trinite" consisted of "an olde rede vestiment of cloth of gold wrought with croises & iij lions to geder with oon hede," and the two copes belonging had "scochens blew and white and lyons stondyng uppon the scochions."

Concerning two of the altar cloths it is noted: "whiche was brought into the place with the bonys of Lady Dame Beatrice sumtyme Countes of Arundell." She died at Bordeaux in 1439, but her bones were afterwards brought to Arundel, and rest in the middle of the quire, beneath the magnificent alabaster tomb and effigies of herself and her first husband Thomas Earl of Arundel.

The remaining list of vestments, etc. contains a few additional red ornaments, and the green and the white vestments, and ends with a list of "baudekyns" and other precious stuffs.

The rest of the red ornaments comprise nine more copes and a single vest-

^a By his will dated 4th May, 1430 [P.C.C. 12 Luffenham], Thomas Salmon directs "quod executores faciant unum vestimentum de toga mea optima cum armis meis et armis dicte Agnetis uxoris mee super eundem faciendis et lego dictum vestimentum ad deserviendum in divinis in dicto Collegio dum durare poterit." (I am indebted to Mr. R. Garraway Rice for this extract.—W. H. St. J. H.)

ment for a priest; this last was of baudekyn with red cloth of gold orphreys powdered with swans. Of the copes two seem to have been paled of red and black, and worked with hands and branches, and had the orphreys embroidered with rolls or scrolls inscribed: **a bous magre**. Two more were "new copys of cloth of gold poudird with enges (*or* euges) of gold of Cipres" and white rolls, and a single cope was of rough velvet with a blue orphrey. The others were "iiij copys for children of silk playnly red and blewe [with] orfrays of rede velvett."^a

Between the red and the green ornaments of the Arundel inventory are inserted two items which seem to have been indeterminate in colour. One is described as "a rede vestiment for a preest of grene bawdekyn the orfray blewe cloth of gold powdrid with trees." The other as "a single vestiment of rede skarlett for a preest and of brakeclothe playnely enbrowdrid with ladys hedes, with a stoole & a fanon of red silke bawdekyn grene."

The green ornaments proper were few in number, and consisted practically of two sets of altar cloths with complete suits of vestments, each including four copes. One set was used "for confessours uppon doubill fest dayes"; the other "for confessours uppon festes of ix lesson3." There was also "a litell grene auter clothe for a side auter," probably that on the south of the presbytery, at the head of the tomb of William Earl of Arundel and his countess Joan. Included among the green things is "a light auterclothe for our lady chapell callid cawdell colour" with a frontal and towel, and a complete suit of vestments.

The first of the white ornaments was evidently an important set. It comprised:

ij auterclothes of white damaske enbrowdid with emmys (M's) crownyd, the over cloth with a myddell pane of rede velvett enbrowdid with an Image of our lady, with iiij copys of the same sewte, and a hoole vestiment for preest diacon and subdiacon of the sewte with all the apparell.

Item a sepulchre of dyverse peces of the same sewte, of the whiche oon pece is enbrowdid with a close tomb, and an other with the resurrection.

Item a seloure of the same sewte. Item a nother seloure with Emmys (M's) of beten gold.

Item ij paier of Ridelles of Emmys beten gold.

^a This use of copes by the choristers was probably a late one confined to rich churches. At York Minster in 1510, among a list of white copes, are a cope for a collet and nine copes for boys. The same church had also sets of four tunics for tribulers and choristers in each of the four colours, white, blue, red, and green. (*York Fabric Rolls*, 228, 233, 234.)

Item ij auterclothes of Emmys beten gold for a side auter.

Item ij Cusshyn bebris of whit damaske enbrowdid with Emmys crowned, Sewed to the sepulchre clothe.

To this suit may originally have belonged the next two items :

Item an old chesible of whit sateyn enbrowdid with Emmys crowned with an orphray of Russett velvett with stoole and fanon and parell for an albe.

Item an old traunson of Beten gold with Emmys.

To the latter entry is added the note : *debilis, non Invenitur.*

There can not be much doubt, from the inclusion of the gear for the sepulchre, that this white suit with the crowned M's was used specially on Easter Day. The crowned letters no doubt refer to Our Lady, whose image was also on the upper front.

The suit is also treated as a special bequest to his college by Richard Earl of Arundel by his will dated 1392 : ^a

Et outre par especial je vuile qe le dit college eit deliverance des autres draps et vestimentz pur la Chapel de drap blanc de soy embroudez et batuz ove M.dor, si bien la meyndre vestement come le greindre, ove tout lapparaill dicell' les queux javoie de doun ma miere de Norff.

His "mother of Norfolk" here mentioned was probably his collateral relative Margaret of Brotherton, Duchess of Norfolk, who died at a great age in 1399.

Another complete set of white altar hangings and vestments with two copes was called "the Cressentes," and there were four other white cloth of gold copes called "the hattes."

Another splendid suit, called the "whit lyonceuez," was the gift of Dame Beatrice Countess of Arundel. It comprised a white altar cloth of cloth of gold for the high altar, another altar cloth and five copes for the Lady Chapel, and "a hoole vestment . . . for prest diacon and subdiacon with all the apparell" also for the high altar.

A suit called "the whit Ray" was "suspendid in reparation," and another for the Commemoration of Our Lady was also *suspendibilis*.

Two white altar cloths "with Blew panys at either ende" are described as "febill"; and a white altar cloth of tartaryn with a red cross in the midst, a frontal, etc. and vestments for a priest "for the Imber dayes," are also noted as "right suspendable."

^a Reg. Arundel, i. f. 183 b.

The next seven entries are probably interpolations from the older list. They include: a cope of violet velvet with two arms of Master Dudley;^a a cope, etc. with the pope's arms, "of M[aster] Dockettes gifte";^b a suit for a priest of blue tissue with orphreys worked with goats and does; and a pair of altarcloths to match, described as "made by M[aster] John Nele." He apparently worked them with his own hands since the next item is

A cope of rede tisew riche with orfrays of nedill werke made by M[aster] John Nele
M[aster] of the College of a gowne of the lady Matravers with a preest complet to
the same, the pectorall of the armyse with lyles.

This John Nele was master during the last twenty years of the fifteenth century.

A little group bracketed together comprises a vestment for a priest of white damask with red orphreys, a coverlet of tapestry work, and two corporas cases of black velvet. One of these had a sun and **Ihr** in the midst; the other a hart between the letters **I. W.** These are the initials of the donor, Dan John Warren *alias* Fyttocke, formerly precentor.

The College was not rich in black ornaments. There was another black velvet corporas case; a plain black altar cloth and the usual sets of vestments, described as "greatly defectife"; and a whole suit of black velvet for priest, deacon, and subdeacon given by Dame Beatrice, late Countess of Arundel.

Of baudekins, or rich clothes for hangings or carpets, there were four pairs and five single. They were evidently Sicilian or Italian woven stuffs of various colours, and with characteristic patterns such as "libardes of gold and conys or hares," "with braunches ij levis grene and oon leve of gold," "with bestes of golde loking upwardes and rolles in their mouthes," etc.

A number of miscellaneous items follow, including "a cloth of olde Russett velvet of a great quantite" $3\frac{1}{4}$ yards long and $2\frac{1}{4}$ yards broad; a sepulchre of

^a By his will dated 1st October, 1500 [P.C.C. 19 and 23 Moone], John Dudley of Atherington left "to the College church of Arundell my best gowne toward a coope and that myn executours doo make and finish that coope w^t my goodes soo that the seid cope whan it is made be worth v^{ll} at the lest." (I am indebted to Mr. R. Garraway Rice for this extract.—W. H. St. J. H.)

^b By his will dated 22nd May, 1501 (P.C.C. 16 Moone), John Dogget, priest, left to the church of the college of the Holy Trinity, Arundel, "unum vestimentum auri pulverizatum cum salutacione beate Marie virginis." (I am indebted to Mr. R. Garraway Rice for this extract.—W. H. St. J. H.) John Dogget was made canon of Lincoln in 1473-4, treasurer of Chichester in 1479, chancellor of Salisbury in 1485-6, and of Lichfield in 1488-9.

goldsmith's work, the ground paly of red and blue;^a a square yard of cloth of tissue and a frontal of the same "put in the chesibill of ffrierknottes"; an embroidered saddle cloth of red velvet which was Earl Thomas's, "nowe made in a vestiment for a preest"; a square red canopy of cloth of gold for Corpus Christi Day, belonging to "the rede sepulchre."

The last items in the list illustrate a not unusual source whence vestments were derived:

Item a gown of cloth of gold, of the gift of my Lady Jahane Matravers, now made in a cope the best and in single vestiment for a preest the best.

Item a gown of purpill velvet of the gift of Erle William Arundell her sonne, now made a cope with garters.

Item a black gown of velvett *ex dono Magistri Johannis Nele*.

The long list of books with which the inventory ends is headed by an entry which is obviously misplaced:

Item iiij stafes for Rectours with typpis garnyssed with silver.

There is no need to recapitulate the titles of the forty-two books that formed apparently the College library. They include the usual treatises that would naturally be found in such a collection, but there is nothing to show whether any and which of them were printed; probably most of them were manuscripts. As in the case of the list of service books the opening words of the second leaf are in each case quoted as a means of identification.

As Bishop William Read in 1385^b left thirteen books to the College, together with a sum of 20 marks to be expended in chaining them firmly in the library, it is probable that all the books were similarly guarded.

Since writing the above, I have found, at the end of the transcript of the founder's will in Archbishop Simon of Sudbury's register, a list of the jewels and ornaments which he devised to his son for the use of his proposed chantry chapel.^c

The list forms the opening part of a much longer one, and is written in French. The heading may be translated:

^a This may have been a shrine for the Blessed Sacrament identical with "the rede sepulchre" mentioned below.

^b Reg. Courtenay, f. 213.

^c Hic notatur de jocalibus domini Comitis relictis.

Cest lordenance et devys de mon t'shon'e s' le Counte Darrundell et de Surr' de ses joiaix et ado'nementz pur sa chapelle litz sales et de toutz maniers vesselementz faitz et ordenez a Arundell en les moys daugust lan xlix°. du regne le Roy Edward tiers puis le conqueste. Primes mons'

This is the ordinance and devise of my most honoured lord the Earl of Arundel and Surrey of his jewels and ornaments for his chapel, the beds, hallings, and all manner of vessels, made and ordained at Arundel in the month of August in the 49th year of the reign of King Edward the third from the Conquest.

First to my Lord Richard his son :

Two cloths for the altar of red velvet embroidered with roses, with ridels of red sendal beaten with roses, and with whole vestments for priest, deacon, and subdeacon and a cope of the suit of the altar with a frontal of my lord's arms and of Lancaster ;

Also two cloths for the altar of red camaca embroidered with lioncels and with two ridels of sendal beaten with lioncels, and with whole vestments for priest, deacon, and subdeacon of the suit of the altar without a cope ;

Also two green cloths for an altar powdered with pierced dragons of gold, with two ridels of green ray, and with a whole vestment for a priest and two tunics and three green copes ;

mons' Richard son filz deux draps pur lautier de Rouge velvet enbroudez de Roses ove ridelx de ronge sendal batuz de roses et ove vestementz entiers pur Prestr' deakne et southdeake et j cope de la seute de lautier ove j frount' des armes mons' et de Lancaster. Item ij draps pur lautier de Rouge camaca enbroudez de leonceux et ij ridelx de sendal batuz de leonceux et ove vestementz entiers pur Prestre deakne et southdeakne de la sute de lautier saunz cope. Item ij draps pur un autier v'tz ove dragons peic poudres dor ove . ij . ridelx de vert raiez et ove un vestement entier pur un prestre et ij tonicles et iij capes de vert. Item ij copes de flour de lys et ij copes des armes de salut pur chauntours. Item un autier de blank samyt ove quantque appartienent pur un vestement de qaresme. Item pur lui les ioialx pur la Chapelle que seusuent Cest assavoir un Crois esteant so' un grant pee du fasson dune sepulcre enamaillez ove ymages de Marie & Johan esteant so' mesme le pee dargent enorrez & enamaillez. Item la plus haute ymage de notre dame enorrez. Item une tabernacle aunciene enorrez et enamaillez ove Crucifix Marie & Johan en le mylieu. Item pur lui . j . chalice principale & . j . Chalice usce. Item j peire de cruetz enorrez . j . peire de Beril & . j . piere blaunk. Item . j . Sonete enorrez. Item . j . peire des Chaundelabres pur la Chapelle enorrez & . j . peire des blauncz ove les armes mons' so' les pomeles q' feurent faitz a parys. Item . j . peire des bacyns enorrez pur la Chapele. Item . j . Cencer enorrez ove . j . escaw blaunc pur Ensens. Item . j . paxbred enamaillez & un autre enorrez. Item . j . boiste dor pur la sacrement a guise dun cloch. Item le plus graunt bouket pur ewe benoice enorrez ove les ymages entour ove le Wispilon a icelle q' feust a levesqz de Wyncestre. Item pur lui le graunt messal coverez de Rouge quir qest acoustumez de servir as hautes festes Item le graunt Messal q' fust a St William Forde. Item le meillour de les deux messals portatifs. Item le messal acoustume de servir chescun jour al haut autier en la Chapelle darundell Item le meillour portors graunt. Item ij autres porthors petitz. Item les . ij . antipheners & les ij graiels grauntz. Item le Collectair. Item la bible en latin. Item le ordinal. Les qūx livres & autres adornementz de Chapele susditz mons' welt & demoerent en la greindre ptie dicelles a la Chapelle darrundell perpetuelement pur la Chanterie illoeqs.

Reg. Sudbury, f. 94 b.

Also two copes of fleurs-de-lis and two copes of arms of the Salutacion for chanters ;

Also an altar of white samite with all that pertains for a vestment for Lent.

Also to him the jewels for the chapel which follow, that is to say : A cross standing on a great foot in the fashion of a tomb enamelled, with images of Mary and John standing upon the same foot, silver and gilt and enamelled ;

Also the tallest image of Our Lady, gilt ;

Also an old tabernacle gilt and enamelled with the Crucifix Mary and John in the middle ;

Also for him, the principal chalice and a used chalice ;

Also a pair of gilt cruets, a pair of beryl, and a silver pair ;

Also a little bell gilt ;

Also a pair of chaundelers for the chapel, gilt, and a pair of silver with my lord's arms on the pommels, which was made at Paris ;

Also a pair of basons gilt for the chapel ;

Also a censer gilt with a silver ship for incense ;

Also a paxbrede enamelled and another gilt ;

Also a pyx of gold for the sacrament in fashion of a bell ;

Also the great bucket for holy water gilt with images round it with the "wispilon" to it, which was the Bishop of Winchester's ;

Also to him the great massbook covered with red leather which is wont to serve at high feasts ;

Also the great massbook which was Sir William Ford's ;

Also the better of the two portable massbooks ;

Also the massbook wont to serve every day at the high altar in the chapel of Arundel ;

Also the better great porthors ;

Also two other little porthorses ;

Also the two antiphoners and the two great grails ;

Also a Collectary ;

Also the Latin Bible ;

Also the Ordinal ;

The which books and other ornaments of the chapel aforesaid, my lord willed and demised for the most part as those to the chapel of Arundel for ever for the chantry there.

The will of another earl, John, who died in 1435, also contains two bequests which can be traced in the inventory :

Item lego unam togam longam panni auri blodij coloris pro secta vestimentorum in honore sancte Trinitatis in dicto collegio.

Item lego aliam togam breviorum panni auri de crymsyn pro pari vestimentorum in capella sancte Marie dicti collegij.^a

^a Reg. Arundel, i. f. 457b.

It will be seen that the Arundel inventory is a document of more than usual interest, not only from the varied nature of its contents, but also on account of the date at which it was made.

Although it does not add to our knowledge much that is new, it is a good example of a class of which we have none too many, and we may congratulate ourselves that it has survived.

ARUNDEL INVENTORY.

[M. 1].

Inventorium istud bonorum Ecclesie Collegiate Sancte Trinitatis Arundell et omnium que in eodem continentur examinatum fuit primo die mensis Octobris Anno regni regis Henrici Octavi nono per Magistrum Henricum Edyall ejusdem Collegij Custodem et pro Inventario suo confirmato et deliberato.

In primis a new great missall withoute note the clapsis of sylver and overgilt and enameld with the Armys of the passion it lackyth a burdon of sylver with a plate. Incipit 2° folio *ubique adesse*.

Item an olde myssall noted with clapsis of sylver overgilt the oon clapse lackyth halfe whiche booke ys callid the ffrenche masbooke. 2° folio *messacionibus*.

Item an olde lytyll masebooke notid new for the high auter. 2° folio *Sacramenta*.

Item an olde myssall noted with clapsis of coper overgilt lackyng a burdon for the chapell of the Castell. 2° folio *benedicatur*.

Item a litell Massebooke for petthes auter. 2° folio *placatum*.

Item a missall noted all defectyfe. *remanens in Castro*. 2° folio *quarta*.

Missalles

Item a newe massebooke unnoted with clapsys of coper and overgilt gravyd with **Ih̄c** of the gift of Sir William Whight late maister. 2° folio *Amen*.

Item a newe missall unnoted of the gift of Sir Adam late submaister of the seid College for the mary gate. 2° folio *reprime*.

Item a myssale of the gift of Sir Thomas Dene unto the brotherhed of Seynt Christofer the keypyng therof shalbe in the College of Arundell. *remanens in fraternitate ibidem*.

Item a masse booke with ij silver clapsis playne late sesid for a mortuare by the death of Sir Esperaunce Blondell lackith a burdon and a plate. 2° folio *non sit*.

Item an olde masse booke 2° folio *et pace*.

Item a litell massebooke with peculiar masses 2° folio *quem omnia*.

- Gossepellari Item a gossellar not noted. 2° folio *facite*.
- Pistellar Item an olde pistellar conteynyng in hymselfe a noted grayle 2° folio *Salus eterna*.
- Legendis { Item a legend hoole of the temporall. 2° folio *quo michi*.
 Item a legend hoole of the Sanctorum. 2° folio *prudentem*.
 Item a legend of the Sanctorum by the gift of Sir Thomas Dene aforeseid. 2° folio *terit*.
 Item a legend of the temporall by the gift of the seid Sir Thomas Dyne. 2° folio *habete*.
 Item ij smale bookes of oon^a [ha]ving an hoole portos either of theym havying a sauter^a *dem*. 2° folio *alterius vivis eorum furatur*.
 Item an antiphoner noted w'tout a clapse sumtyme it was sylver. 2° folio *Regnas*.
 Item v antiphoners for the chaunter preestes and clarkes *primum coram cantore* 2° folio *multas*. *Secundi libri* 2° folio *et Regnas*. *tercij* 2° folio *criores*. *Quarti* 2° folio *ramte* [?]. *Quinti libri* 2° folio *Dominus*.
 Item an olde portes callid the best booke 2° folio *confiteor . modo remanens apud Downley*.
 Item a newe legger noted lying before the M[aster] with clapsis of sylver gravid with *Ih̄c* with the hoole legend 2° folio *Ave*.
 Item a legger noted with his legend lying before the Submaister 2° folio *in Audiencia*.
 Item an olde Antiphoner unhelyd of the ordenaunce of Dame Beatrice Comites of Arundell 2° folio *non Auferetur*.
 Item an olde portes withoute clapsis in the vicars kepyng *remanens cum vicario* 2° folio *Miserere*.
 Item an olde portes callid Cokhardy of the gift of Sir John Colmord late Master of the seide College. 2° folio *fiat*.
 Item an olde Manuall withoute clapsis conteynyng dyverse masses *remanens cum vicario* 2° folio *potestatem*.
 Item a newe Manuall late of the gift [of] Sir Thomas Dene aforeseid. 2° folio *Exaudi . remanens cum vicario*.
 Item a newe manuall. 2° folio *postaticis*.
 Item iij martilages wherof oon is without sentences 1^a libri 2° folio *sunt*.
 ij^a libri 2° folio *Solennis*. 3^a libri 2° folio *puer*.

^a There is a bad water stain here in the MS.

Martilagis Collectary New Sawter Grayles for our Lady Chapell & for the Quere	{	Item a collectari 2° folio <i>libenter</i> .
		Item an olde Sawter callid the Whight Sawter. 2° folio <i>in furore</i> .
		Item ij litell grayles for our lady chapell of the gift of Sir Walter Richeman. <i>primi libri</i> 2° folio <i>Rex</i> . 2° <i>libri</i> 2° folio <i>Do valde debiles</i> .
		Item vij graylys . wherof oon is a frenche Graile. <i>primi libri</i> 2° folio <i>unius suis</i> . 2° 2° folio <i>qui</i> . 3° 2° folio <i>quorum</i> . <i>quarti</i> 2° folio <i>quesumus</i> . 5° 2° folio <i>procedit</i> . 6° 2° folio <i>in nubibus</i> . 7° 2° folio <i>Deum</i> .
		Item a grayle. 2° folio <i>suis</i> .
Ordynallis	{	Item a fair grayle. 2° folio <i>Ad te levavi</i> .
		Item an ordynall cheanyd. 2° folio <i>orationes</i> .
		Item a newe ordynall of the gift of Sir William Whight. 2° folio <i>Deo</i> .
Processionalles and Quayers	{	Item xiiij processionalles writted and noted 2 <i>remanentes apud Downley</i> .
		Item ij processionalles printed.
		Item ij quayers of the whiche oon begynnyth <i>pueri hebreorum</i> with other dyverse processions. <i>pro istis duobus quaternis habent unam processionem</i> .
Organ bookes.	{	Item a booke with the Invitatorys and the versiculis noted. 2° folio <i>fit</i> .
		Item an olde organ booke bounde with bordes. 2° folio <i>Et in terra</i> .
		Item a newe organ booke of the gift of Sir John Grendon parson of Westborn. 2° folio <i>voluntate</i> .
		Item an olde Quayer noted with placebo & Dirige of the gift of Sir R. Russell. 2° folio <i>tua vale debilis</i> .
		Item a catholicon cheynynd yn the quere. 2° folio
A harte.	{	Item a Hugucion cheaned in the quere. 2° folio <i>quia libenter</i> .
		Item a bibyll for to rede on in the hall. 2° folio <i>remanens in aulla</i> .
		Item a hart of silver and gilt with a pece coverde gilt lvj unces lackyng the knappe weyng iiij unces.
		Item a brode tabernacle of sylver and gilt and enamyldde with a crucifixe of Mary and John Petre and Poule with ij Scocheons lackyng in the corners above <i>tamen remanens in custodia Submagistri</i> weyng c & li unces.
Tabernacles.	{	Item a tabernacle of golde with vij wyndowes of birell for the sacrament [“now with a bone of Seynt Lawrence”. lackyng ij pynnacles & a knoppe.
		Item a greate tabernacle of Silver and gilt [“with a crosse of the holy crosse and many other relikes”] and ij owches of gold with a popyngay of gold and grene enameld hangyng in the pynnacles . the ij ouchys remayneth yn the cofir. with the comen seale and the armys of Arundell weyng CClij unces.

* Deleted.

Item a tabernacle of silver and gilt beryng two [* relikes of Seynt Ethelrede].

Item with the seid tabernacle a litell cristall with a pynacle of silver & gilt conteynng a pece of the tabill of our lorde weyng vj unces.

Item an olde tabernacle enclosed with a crucifix with Mary and John within and the gisyn of our lady and other Imagery all of moder . peryll and all to broke.

Item a tabernacle stondyng of iij fete with a relike in cristall & a crucifix with Mary and John & the iiij evaungelistes all gilt except the Image of our lorde.

Tabilles { Item a table of silver and gilt with a thorne of the crowne of our Lorde and other. ij relakis of our lady and of Mary Magdalene lackyng a knoppe.

Item a litell long tablet of gold with Seynt George on the oon side and a litell pott on the other side with a blake lace.

Item a litell crucifixe of golde with a pece of a thorn of the crowne of crist whiche Nicholas Hunte of Slyndon gafe to the college of Arundell.

Crucifixes { Item a greate Crucifixe of silver and gilt uppon the resurrection enameld lackyng half a fote *remanens cum submagistro* in the oon ende lackyng. Also ij diademes of Mary and John.

Item a crucifixe of silver and gilt with a fote enameld with asure and grene with Mary and John with peryll and other litell stonys the whiche foote stondeth on vj lyons whiche foote lackyth xxvj perlys and a blew stone and his grene enamel.

[M. 2.] { Item a crucifixe with a greate foote of silver and gilt and a birell and a Cressaunt for the sacrament.

Crucifixes { Item a crucifixe with Marye and John upon a long foote beryng above the foote a birell stuffed with dyverse relikes lackyng the poyntes of iij flowres delice viij stonys and the diademe of Johns hede.

*Item a greate Crucifixe of sylver and gilt with Mary and John with a greate foote enameld beyng uppon iiij lyons lackyng muche of his enamell.

Item an ymage of the Trinite of sylver and gilt with a crosse of sylver and gilt with a bone of Seynt Stephyn hangyng aboute the necke of the seid Image with a blake lace of sylke lackyng iiij pynnys of sylver under the foote.

Item an Image of Seynt John of Beverle of silver & gilt beryng a bone of the seid Seynt John in a tabernacle of birell ij labells of the Mitre. *remanentes in manibus submagistri*.

* "In manibus Domini. Thome de Arundell" added in the margin.

Item an ymage of sylver and gilt of the Archebissshoppe the hede & the mytre of gold couched with perlis and other stonys [*the manuscript here has been erased*] [with a] knoppe behynde.

[Item an ymage of *another erasure*].

Item ij ymages of petre and poule of sylver and gilt with scochons on the fete of the ymage of poule lackyng a pynne of sylver under the fote and the bokyll of his swerde and the keys of petre. *remanentes in cista cum communi sigillo.*

Item an aungell of silver and gilt stondyng upon iij lyons under the fote and the wenges enameld beryng a closure of birell with relikes / the wenges lackyng of their enamell.

Item a greate chalice of sylver and gilt in the foote a crucifixe with mary and John and in the patene a maieste enameld with a spone of sylver.

Item a chalice of sylver and gilt with a crucifix in the foote gravyd and the patene a maiese

Item a lasse chalice of sylver and gilt of the same sewte.

Item ij newe chalices with vernacles in the patene the swages of the patens overgilt and the vernacles overgilt.

Item a chalice of sylver and parte gylte in the foote havyng a crucifixe with mary and John and in the patene a hand / defectife in the foote.

Item a cuppe with a cover of a Gripis egge with a foote of sylver and gilt the cover is broke.

Item a boxe of sylver for singyng brede.

Item a chalice gilt with a patene written in [the] foote **Ih̄c xp̄us** and in the bolle **benedictus qui venit in nomine domini.** *ex dono Johanne Comitisse matris domini Willelmi Arundell.*

Item a chalice of silver and overgilt in the hoole with a crucifixe in the foote and in the patenne the maieste by the ordenance of Sir Thomas Dene And the keyyng thereof to be in the College. *remanens in ecclesia ad altare sancti christoferi.*

Item a paxbred of sylver and gilt enameld and stuffid with viij trianglis stones lackyng a pynn of sylver with the hede of a rose. *remanens in cista.*

Item a brode paxbrede of sylver and parte gilt with a crucifixe of Mary and John greatly defected.

Item a greate owche of sylver and gilt stuffed with stones for a cope.

Item a paire of basyns of sylver and gilt enameld in the rosis with wedwosis and a condyght of the gifte of William Rede Bisshoppe of Chichester.

Item a paier of playn bassyns of silver the swages gilt the pype *remanens in cista*.

Bassyns

Item a paier of bassyns of sylver and gilte gravyd in the rosis withe the salutacion and the assumption / the oon defectife in the swages.

Item a paier of bassyns of sylver the swages gilt with ymages of the maieste in the rosis enameld.

Item a paier of bassyns gilt written with the armys of Arundell & Matravers *ex dono Johanne Comitisse matris domini Willelmi Arundell*.

^a Item a peire of chaundelers of sylver enbosed in the myddyll staffe and the bosis & swages gilt with vj square corners of the whiche oon is to broke embatelled above with a pipe of sylver.

Item a rounde chaundeler of sylver embosid in the myddell staffe and swages gilt and the bosis and enbatelled above.

Chaundelers

Item a greate paier of rounde chaundelers of latyn beyng uppon vj lyons before the high auter.

Item a litell paier of rounde chaundelers of lattyn for childern.

Item a paier of more rounde chaundelers of latyn for our lady auter. *non sunt inventi*.

Item a paier of rounde chaundelers of sylver and gilt with rounde bollys in the myddyll stafe.

Item a paier of long chaundelers with swages gilt and enameld with the armys of Herford Wareyn and Arundell.

Rynges for Rydelles

Item xxxj Rynges for Rydelles. *remanentes in cista*.

Item a paier of greate Cruettes rounde of silver and gilt / lacke ij ledes *remanentes in cista*.

Cruettes

Item a paier of smalle rounde Cruettes of sylver with pypys the swages gilt lacke ij ledes and a pece of the pipe / *remanentes in cista*.

Item a paier of vj square Cruettes parcell gilt *ex dono Magistri Johannis Dudley*.

Sakeryng belles

Item a greate sakeryng bell of sylver the swages gilt.

Item a sakeryng bell of sylver playne newe reparyd.

Item a greate sencer of silver and gilt and enbatellid above lackyng vj knoppys of a pynnacle.

Item a sencer of silver the stepull and the swages gilt graved above with a vyne Defectif in the cheyne / Item brused in the foote Lackyng vj pynnacles and a greate ryng the ryng remayneth in *Custodia Submagistri*.

^a "in manibus domini" added in margin.

- Sencers { Item ij sencers of sylver of oon sute and the swages gilt with libardes hedes gilt of that oon there lakyth vj pynnales and that other lackyth vj pynnales and that other lackyth vj pynnales [*sic*] and all the fynell of the wyndows of both sencers except oon fynell.
- ^a Item a playn sencers [*sic*] of sylver and gilt lackyng vj pynnales.
- Item a litell sencer of sylver the tabernacle and the swages gilt lackyng vj pynnales and a knoppe above the fenestre and defectif in the foote.
- Item a sencer of sylver the tabernacle and the swages gilt and enbatelled above lackyng vj pynnales and a knoppe above a fenestre and the foote departed from the boll. *tamen remanens ibidem.*
- A Shippe for Incense { Item a shippe for Incense of silver with a dragons hede gilt the hedes and the swages on the foote gilt with a litell spon of sylver the foote halfe broken away.
- Holywatter bokettes { Item a greate holy watter bokett of Silver with Bisshoppis in tabernacles aboute with a spryngell of Silver and gilt for the same sumwhat foreworen in the hede in the whiche the handyll goith in.
- ^b Item a holy watter bokett of sylver with a spryngell for the same.
- Item a litell holy watter bokett of sylver with a springell of sylver all to broke for the same the swages gilt the bokett defectife in oon of the hedes and in the foote under the bothom.
- ^c Item ij peces of a Skaloppe Shell of sylver for salt. *expendantur ad augmentum calicis fracte.*
- Crownes of silver and a Mantell { Item iij crownes of sylver and gilt ij for the ymage of our lady at the Marygate and a crowne of sylver and gilt for her sonne the lasse crowne lackyng oon lefe and a stone.
- Item a mantell of whight cloth of gold with an owche and xxiiij Ryngges of the whiche oon is gold as it semyth.
- Item a superaltare havyng a rede stone closed in sylver gilt above / the stone callid a Jasper . and broke in a corner . lackyng pynnys of sylver underneth.
- ^d Item a standyng cuppe of silver with a cover gravyd with levys.
- ^d Item ij standyng masers with fete silver and gilt with ij covers of Maser. garnyssed with silver gilt.

^a "Dominus habet unum" added in margin.

^b "Dominus habet" added in margin.

^c This item should properly be included with the holy water buckets.

^d These two items are additions in the original hand.

^a Item a flat maser . with a bose and a violet Rose enamyld.

^{a b} Item a bande of a notte.

Item a byrell enclosed with gold with our lady mylke [*added in the same hand as the marginal additions*].

[M. 3.]

Item ij clothis of my lordes Armys for the high auter with a crucifixe of Mary and John. And that other with the Assumption With a frontell of golde damaske with a tewell.

Item ij Albis iij ameyss j chesible ij tunicles ij fanons and a stoole Also ij Albis ij amysis for the cruciferars of the same sewte.

Auterclothis

Item ij auterclothes of blew velvett enbrowderd with Eglys of golde. Wherof the over auterclothe is enbrowderd with a maiste^c havynge a Saphir in the brest with a frontell of the same Sewte with a tewell iij albis iij amysis iij fanons ij stolis a chesible ij tunicles & vij coopys of the same sewte.

Item a traunsome with ij Ridells of blew tartaryn powderd with Eglys of bete gold.

Item an auter of blew cloth of golde dyversly powderd a tewell with a frontell of the same sewte iij Albis iij amysis ij stolis and a cope servyng for the same sewte Also a corporas case of the sewte with a corporas.

^d Item ij blew coopys of cloth of gold callid floure delice.

Item a cope of blew Sateyn powderd with sterrys of gold.

Item ij blew clothis of Bawdekyn wrought with Squyrelles birddes and braunches.

Auterclothes
and Coopys

Item a syngle Chesible of tartaryn blew enbrowderd with rosys of gold all perusid and spendyd in amending other westmentes.

Item a blew cloth of bokeram for the auter with a crucifixe of Mary and John Petur and Poule lynyd with lynen clothe.

Item an old single vestiment of bawdekyn blew and better blew wrought with dyverse bestes of rede and other thynges of the same sewte.

Item a newe syngle vestiment of blew damaske cloth of sylver with chesibill stoole / fanon / albe / amyce / and a corporas case and a corporas of the gift of Thomas Salman Esquyre.

^a These two items are additions in the original hand.

^b "*in manibus ultimi magistri*" added in margin.

^c i.e. Majesty.

^d "*Non sunt hic sed creditur quod dominus habet*" added in margin.

Item ij auterclothis of rede velvett enbrowderd with rosis of gold a fruntell with a tewell / iij albis / iij fanons / ij amysis / ij stoolis / a chesible / ij tunicles and vij copys all of the same sewte / Also ij rede rydalles powderd with rosys of beten gold.

Item an olde auter of rede clothe of golde powderd with bestes and hawkes feet sesynng the backes of the bestes with ij pallys of the same sewte/a fruntell with a tewell of olde rede cloth of gold powderd with okis and birdes / iij albis iij amysis / iij fanons / ij stoolis / a chesible / ij tunicles / a case with a corporas and iij copys of the same sewte servyng to the same auters.

Item a rede auter clothe enbrowderd with [rede *struck through*] lyons of gold a fruntell with a tewell iij albis / iij amysis / iij fanons / ij stoolis / a chesible / ij tunicles and a cope of the same sewte / ij ridelles rede powderd with lyons of beten gold lackyng dyverse lyons.

Item a vestiment of rede velvett enbrowderd with a great lyon of yelow velvett a chesible / ij tunicles / iij albis / iij amysis / iij fanons / ij stoolis and a cope of the same sewte.

Item a vestiment of rede bawdekyn powdrid with blew conteynyng all an auter cloth a fruntell with a tewell a case for a corporas / iij albis iij amysis / iij fanons ij stolis and iij copys of dyverse sewtes.

Item a rede vestiment callid purpill conteynyng ij clothis for the auter / a fruntell with a tewell / a chesible / ij dalmatikes / iij albis / iij amysis / iij fanons / ij stooles and a mantell for a colett.

Auterclothes
Copes and Vesti-
mentes

Item a rede vestiment of sylke callid knottes conteynyng a clothe for the auter a fruntell with a tewell / iij albis / iij amysis / a chesible / ij dalmatikes / iij fanons / ij stoolis / iij copys with blew orfreys of velvet / a mantell of the same sewte of the copys without orfreys.

Item an olde rede vestiment of cloth of gold wrought with croisys & iij lions to geder with oon hede conteynyng iij albis (*unde ij occupantur cum alijs vestimentis*) iij amysis / iij fanons / ij stoolis / a chesible lacke / ij tunicle of dyverse / an albe an amyse and a mantell of a colett / ij copys of the sewte of the mantell with scochens blew and white and lyons stondyng uppon the scochions whiche vestimentis servyth for the commemoration of the Trinite with an autercloth steynynd with dyverse ymages and a fruntell of old cloth of gold with a tewell.

Item a rede autercloth callid the old rede with a fruntell and a tewell / iij albis iij amysis / ij stoolis / ij fanons / a chesible / ij tunicles / iij copys serving to the same auter the principall therof having an orfray of old cloth of gold.

Item iij copys of white damaske for preest diacon and subdiacon of the gift of [blank].

Item an auterclothe of olde rede with a fruntell and a tewell.

Item a rede auterclothe of gold callid the wyys with a litell remenaunt of the same Also a fruntell with a tewell of the same.

Item ij rede auterclothes of gold the over auter with a crucifixe of Mary and John with a fruntell of gold cloth callid damaske velvet without tewell whiche was brought into the place with the bonys of Lady Dame Beatrice sumtyme Countes of Arundell.

Item a vestiment for preest diacon and subdiacon of rede clothe of golde callid the Whit barrys with hoole apparell and a cope of the same sewte.

[M. 4]. Item ij copys of pauly coulour rede and blake enbrowdid with handes and braunches the orfrays of the same enbrowdid with Rollis of **a bous magre** (*debiles*).

Item ij newe copys of cloth of gold poudrid with enges of gold of Cipres and with whit rollys the orfrays therof of cloth of gold callid damaske velvet.

Item a rede playn cope of rawgh velvet with a blew orfray powdrid with small werkes of silke.

Item iiij copys for children of silke playnly rede and blewe orfrays [powdrid *struck through*] of rede vellett.

Item a syngle vestiment for a preest of [Rede and . . . *struck through*] Bawdekyn the orfrays of rede cloth of gold powdrid with swanys.

Item a rede vestiment for a preest of grene bawdekyn the orfray blewe cloth of gold powdrid with trees.

Item a single vestiment of rede skarlett for a preest and of brakeclothe playnely enbrowdrid with ladys hedes with a stoole & a fanon of rede silke bawdekyn grene.

Item a grene auterclothe of gold of lukes for confessours uppon doubill fest dayes with a fruntell and a tewell of the same.

Item to the same pertynyng a hoole vestiment for a preest diacon & subdiacon . with all the apparell / Also iij copys of the same sewte and a principall cope of rough grene velvet.

Item a grene autercloth for confessours uppon festes of ix lessions with a fruntell and a tewell to the same with vestimentes to the same for preest diacon and subdiacon with all the apparell with ij playn grene copys and other ij grene copys of werke for cotidians.

Item a light auterclothe for our lady chapell callid cawdell colour with a fruntell and a tewell to the same and a vestiment for a preest diacon & subdiacon with all the apparell.

Item a litell grene auterclothe for a side auter.

Item ij auterclothes of white damaske enbrowdid with emmys crowned the over cloth with a myddell pane of rede velvett enbrowdid with an Image of our lady with iij copys of the same sewte and a hoole vestiment for preest diacon and subdiacon of the same sewte with all the apparell.

Item a sepulcre of dyverse peces of the same sewte of the whiche oon pece is enbrowdid with a close tombe and an other with the resurrection.

Item a seloure of the same sewte / Item a nother seloure with Emmys of beten gold.

Item iij paier of Ridelles of Emmys beten gold.

Item ij auterclothes of Emmys beten gold for a side auter.

Item ij Cusshyn bebris of whit damaske enbrowdid with Emmys crowned Sewed to the Sepulcre clothe.

Item an old chesible of whit sateyn enbrowdid with Emmys crowned with an orfray of Russett velvett with stoole and fanon and parell for an albe.

Item an old traunson of Beten gold with Emmys (*debilis non Invenitur*).

Item a whit autercloth of gold callid Cressentes with ij copis of the same sewte / Item a hoole vestiment for preest diacon and subdiacon with all the apparell perteynyng therto of the same sewte.

Item iij copys of white cloth of gold callid the hattes.

Item a whit auter cloth of gold callid the whit lyonceuez for the high auter with a fruntell (lackyng) and a tewell (differyng).

Item an other whit auter cloth of the same sewte for our lady chapell and v white copis of the same sewte with a fruntell and a tewell.

Item a hoole vestiment of white cloth of gold of the gifte of Dame Beatrice Countes of Arundell for preest diacon and subdiacon with all the apparell perteynyng to the seid auter and copis callid lyonceuez.

Item ij auter clothes callid the whit Ray with a fruntell and a tewell with iij copys of the same sewte / Item a hoole vestiment for preest diacon and subdiacon with all the reparell (*suspendid in reparation*).

Item a whit playn auterclothe with fruntell and tewell for the Commemoration of our lady with iij old whit copys perteynyng to the same and a hoole whit vestiment for a preest / *suspendibilis*.

Item ij whit auterclothis with Blew panys at either ende / febill.

Item a playn whit autercloth of Tartaryn with a rede crosse in the myddes with a fruntell and a tewell / And a chesible an albe a fanon ij stoolis an amsey for the Imber dayes / right suspendable.

Item a cope of violett velvet with ij armyse of M[aster] Dudley with an orfray of nedyll worke.

Item a cope of M[aster] Dockettes gifte with the popes armys for preest diacon and subdiacon.

Item a chesible of blew tisew with albe/stoole/and fanon/the orfray of nedill werke with Gootes and does.

Item a peire of Auterclothis of the same tyssew riche with orfrayes of nedill workes made by M[aster] John Nele.

Item a cope of redde tisew riche with orfrays of nedill werke made by M[aster] John Nele M[aster] of the Colle of a gowne of the lady Matravers with a preest complet to the same the pectorall of the armyse with lyles.

Item a vestiment for a prest of whit damaske the orfray of rede chaungeable diaper.

Item ij corporas cases of blacke velvett oon with a sone and **Ih̄c** in the myddes and the other with an **I** a hart and a **AA** Also a coverlight of Tapstery worke *ex dono domini Johannis Warren alias Fyttocke quondam precentoris.*

Item a corporas case of blacke velvett with **Ih̄c** of nedill worke *ex dono Domini Johannis Mundy nuper submagistri.*

Item a blacke pleyn auterclothe with a ffruntell and a tewell iij copys of the same sewte and a hoole vestiment for preest diacon and subdiacon greatly defectife.

Item a hoole westiment of blacke velvett enbrowdid with nedill werke for preest diacon and subdiacon with all the apparell of the gift of Dame Beatrice late Countes of Arundell.

Item iij albis of clothe of gold the parelis / iij stoolis . iij fanons ij amysis with a girdell of silke stole werke.

Item ij clothes of gold bawdekyn the ground grene with rede floures whit and blew.

Item a cloth of Bawdekyn with bols of golde.

Item ij clothis of Bawdekyn with birdes of golde and liberd of grene (lacke oon).

Item cloth of golde bawdekyn with libardes of gold and conys or hares.

Item ij clothes of bawdekyn with braunches ij levis grene and oon leve of gold.

Item a rede clothe of bawdekyn with a watter floure of golde the levis grene.

Item a bawdekyn callid caudell coloure.

Item ij rede clothis of golde with bestes of golde loking upwardes and rolles in their mouthes.

Item a cloth of olde Russett velvet of a grete quantite iij yerdes and a quarter in lenght and ij yardes and a quarter in brede.

Item a sepulcre of goldsmythes worke the grounde rede and blew pale.

Item a yerde of cloth of tyssew square with a fruntell of the same it is put in the chesibill of ffrierknottes.

Item a sadell clothe of rede velvet enbrowdid whiche was Erle Thomas now made in a vestiment for a preest.

Item a rede canopie of cloth of gold for corpus Cristi day square longyng to the rede sepulcre.

Item viij clothes of tapstery werke serving to the quere.

Item a chesible and ij tunicles of blew cloth of golde with ffreiresknottes and ij Albis lackyng the parell / stooles and fanon.

Item a whit vestiment for preest diacon & subdiacon of cloth of bawdekyn with briddes and lyons of gold.

Item a gown of cloth of gold of the gift of my Lady Jahane Matravers now made in a cope the best and in single vestiment for a preest the best.

Item a gown of purpill velvet of the gift of Erle William Arundell her sonne now made a cope with garters.

Item a blacke gown of velvett *ex dono Magistri Johannis Nele*.

*In manibus
domini Thome de
Arundell apud
Downley.*

[M. 5.]

Item iiij staves for Rectours with typpis garnysed with silver.

Item Pupilla oculi 2° folio *primitur*.

Item actus apostolorum cum apocalipsi et cum canonibus apostolorum 2° folio *in glosa / non dum in textu eis*.

Item pupilla oculi 2° folio *ubi non habetur*.

Item lira super quatuor evangelistas 2° folio *ipsius sub ratione*.

Item liber de summa Trinitate et f. ca 2° folio *accepcionem*.

Item sermones de omnibus festis beate Marie virginis 2° folio *in sum*.

Item liber de deversis [sic] tractatibus 2° folio *secundum diem*.

Item liber vocatus periegesis . i . descriptio orbis terrarum 2° folio *itaque multorum*.

Item lira super actus apostolorum 2° folio *mobile*.

Item decretales 2° folio *et sanguis*.

Item textus logice 2° folio *specie*.

Item Decreta cum glosa 2° folio *non consistunt*.

Item textus decretorum 2° folio *hoc species*.

Item constitutiones Octonis et octoboni 2° folio *ut sanctitatem*.

Item Decretales 2° folio *quia ad dei invocationem*.

Item vetus pauperum 2° folio *extirparit*.

Item casus decretalium Magistri Barnardi 2° folio *papam fuerit*.

Item codex 2° folio *sularis atque*.

Item liber diversorum tractatum 2° folio *multociens*.

Item hugucio 2° folio *et inde servus*.

Item Sanctus Johannes Crisostimus 2° folio *sicut ille*.

Item liber genesis et exodi 2° folio in textu *fiat lux* / in glosa *uni creata*.

Item parabole Salamonis 2° folio in textu / *eratque vir*, in glosa *Invicem poscunt*.

Item biblia 2° folio *Revertaris*.

Item concordantie biblie 2° folio *Impietatem*.

Item psalterium glosatum 2° folio in textu *et folium eius* in glosa *Ecclesie*.

Item legenda aurea 2° folio *tat nos illuminandos*.

Item Thomas de Alquino de articulis fidei et sacramentis 2° folio *illud quod apostolus*.

Item sermones ad diversa statuum et officiorum genera 2° folio *tis per*.

Item manipulus florum 2° folio *una et eadem*.

Item psalterium glosatum 2° folio in textu *quare fremuerunt* in glosa *generalibus*.

Item commune loquium Johannis Wallensis 2° folio *Hi omnium in corpore*.

Item textus cum elementis. 2° folio *volumen*.

Item liber diversorum tractatum cum tabula in principio libri. 2° folio *que libenter*.

Item flores sanctorum. 2° folio *Salvatoris*.

Item speculum spiritalium. 2° folio *vis occulta*.

96 *On an Inventory of the goods of the Collegiate Church of the Holy Trinity.*

Item Aurelius Augustinus de pastoribus. 2° folio *sic luceat.*

Item liber de quatuor partibus gramatice. 2° folio *clarissimus*
ex dono Domini Johannis Colyntrewe.

Item liber vocatus vita Christi. 2° folio

Item ff. i. digestum novum cum ciosa [*sic*]. 2° folio in glosa *Item primum*
in textu quos pro dotibus.

Item ff. vetus cum glosa. 2° folio in textu *sufficit* in glosa *tercij sors tulit.*

Item ff. inforciatum. 2° folio in textu *e contrario* in glosa *hec sunt fructus.*

III.—*The Chronology of the British Bronze Age.* By Dr. OSCAR MONTELIUS,
Hon. F.S.A.

Read 20th February, 1908.

IN 1900 I was invited by the University College of London to deliver a series of lectures on prehistoric chronology. I then put forward my chronological system for the Bronze Age in different parts of Europe.

The chronology of the Bronze Age in Sweden, Norway, Denmark and the northern part of Germany had been treated by me already in 1885;^a the first period of the Bronze Age in these countries I examined more especially in 1899.^b

At the Liverpool meeting of the British Association in 1896 I had communicated my opinion of the chronology of the pre-classical time in Greece and Italy,^c and at the Prehistoric Congress of Paris, 1900, I discussed the chronology of the Bronze Age in France, Belgium, South Germany, and Switzerland.^d

But the part of my system which relates to the chronology of the Bronze Age in Great Britain and Ireland, and which I had also spoken of in my lectures at University College, has not yet been published.

^a Montelius, *Om tidsbestämning inom Bronsåldern, med särskildt afseende på Skandinavien* (Stockholm, 1885). Idem, *Sur la chronologie de l'âge du bronze, spécialement dans la Scandinavie*, in the *Matériaux pour l'histoire primitive et naturelle de l'homme*, xix. (Paris, 1885), 108.

^b Idem, *Die Chronologie der ältesten Bronzezeit in Nord-Deutschland und Skandinavien* (Braunschweig, 1900); reprinted from the *Archiv für Anthropologie*, xxv. and xxvi.

^c Idem, *Pre-Classical Chronology in Greece and Italy* (London, 1897); reprinted from the *Journal of the Anthropological Institute of Great Britain and Ireland*, xxvi.

^d Idem, *La chronologie préhistorique en France et en d'autres pays celtiques*, in the *Compte rendu du Congrès International d'Anthropologie et d'Archéologie préhistoriques*, xii. (Paris, 1900), 340; also printed in *L'Anthropologie*, xii. (Paris, 1901), 609.

That we can get such a chronology is due to the excellent works of Sir Richard Colt Hoare, Sir John Evans, Mr. John Thurnam, Rev. William Greenwell, Mr. Joseph Anderson, Sir William Wilde, Mr. George Coffey, and many other distinguished archæologists.

In his admirable work on British bronzes Sir John Evans has already regarded the Bronze Age of Britain as "an aggregate of three stages." The present paper is only the result of an attempt to proceed a little further on the way opened by him.

As in my studies of other countries, I have, in examining the British Bronze Age, considered first *the relative chronology*, giving us the succession of the periods, and then *the absolute chronology*, indicating the centuries before our era which correspond to each period.

I begin with

A. *The Relative Chronology of the Bronze Age in Great Britain and Ireland.*

In treating this, I consider not only the numerous finds known from the Bronze Age in the British Isles, but also the results of the typological researches of all the British antiquities from this period.

By those studies, it must be remembered that only such finds can be used where all objects evidently have been deposited at the same time.^a Consequently what has been found in the same grave, at least if there is only one body in the grave, and what belongs to the same hoard, forms very good material for the chronology. But what has been discovered on the same dwelling place, between the remains of a house or a village or anything similar, is not so good for this purpose.

As most of the British graves from the Bronze Age only contain one or two bronzes, and as no *fibulæ* or other objects from that period exist suitable for precise dating in the British Isles, there has been more difficulty in producing a chronological system for Great Britain and Ireland than for many other countries.

As the following lists will show us, in some finds only one group of implements, weapons, and ornaments, and in other finds a distinct group of implements, weapons, and ornaments, is represented. Each of these two groups must therefore date from a different period.

If we typologically examine all these antiquities, we find that one group contains more ancient and another group more recent types.

^a Idem, *Die typologische Methode*, reprinted from *Die älteren Kulturperioden im Orient und in Europa*, I. *Die Methode*. Stockholm, 1903.

By these means I have established five periods of the History of the British Civilization from the introduction of copper to the beginning of the Iron Age. The first of these five periods is the Copper Age, when bronze, an intentional alloy of copper and tin, was not yet known or still extremely rare.

Types belonging to the same period are often, but types characteristic of different periods very seldom, found together.

The most important fact is that, if types of two periods occur in the same find, one of these two periods immediately succeeds the other. Thus types from the first and second or the third and fourth periods can sometimes be found together, but the first and third or the second and fourth periods are not represented in the same find. Exceptions to this rule are extremely rare in all finds from the Bronze Age.

It is evident that a long time must have elapsed between the end of the second and the beginning of the fifth period, but there is no great number of good finds, especially few burial finds, from this time. It is therefore more difficult to distinguish the intermediate third and fourth periods than those which I have called the first, second, and fifth.

The following remarks and figures give an idea of the most characteristic types of each period.

PERIOD I.

Copper Age.

Most of the metal objects at this stage are of copper, without any intentional alloy of tin.^a

In Great Britain and Ireland, as in other countries, weapons and implements of stone were so common during the Copper Age that this period could also be considered as the last part of the Stone Age.^b

^a It is very difficult to distinguish, by the colour, copper and poor bronze (with a very small portion of tin), and only some few objects have been analyzed. Cf. George Coffey, "Irish Copper Celts," in the *Journal of the Anthropological Institute*, xxxi. 265; W. Gowland, "Copper and its Alloys in Prehistoric Times," Presidential Address, in the same *Journal*, xxxvi. (1906), 11.

^b Montelius, *Die Chronologie der ältesten Bronzezeit in Nord-Deutschland und Skandinavien*, 6. In that paper I have answered objections of the same kind as those made in the *Journal of the Anthropological Institute*, xxxvi. 22.

The characteristic feature of the Copper Age is that the intentional alloy of copper and tin was not then practised. But in such countries as Cornwall, where the copper ores contain a great deal of tin,^a the smelting of the ores gave immediately, without any intentional addition of tin, a copper containing a considerable quantity of tin, a sort of bronze.

In the first period occur :

Axes of flint (fig. 1), more or less polished.

Axe-hammers of stone, with a bored hole for the insertion of a haft (figs. 8 and 23).

Hammers of horn (fig. 9).

Daggers and spear-heads of flint (fig. 2).

Arrow-heads of flint (figs. 4 and 28).

Bracers or wrist-guards of stone or bone, to protect the arm against the recoil of the bow-string (figs. 7 and 29).

Scrapers of flint (fig. 3).

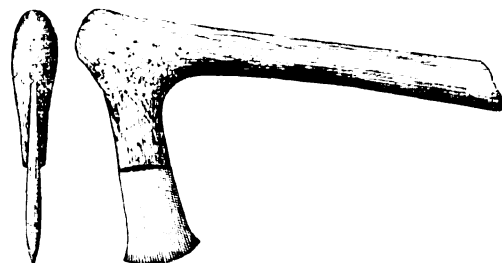


Fig. 20. Flat copper axe in wooden handle. (4.)

Flat axes ("celts") of copper (or very poor bronze) (fig. 11);^b the edge is not much broader than the upper part of the blade. Fig. 20 shows how these axes were inserted into the wooden handle.^c

No flanged axes.

No axes with stop-ridges.

No socketed axes.

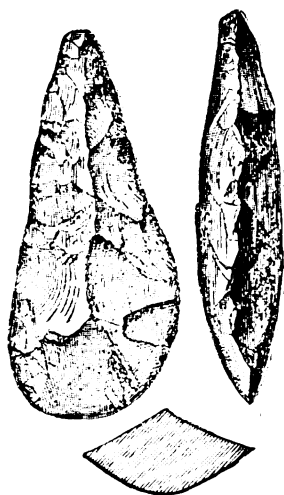
Tanged daggers of copper as figs. 10 and 26. The tang is broad, flat; generally without rivet holes. These daggers are direct imitations of flint daggers.

^a Gowland, *l.c.* 19.

^b Coffey, *l.c.* 267 (trace of tin up to 1 per cent. of this metal). Some of the English axes contain much tin (9 to 11 per cent.), which is, as we have already seen, due to the presence of tin in the English copper ores. (*Journal of the Anthropological Institute*, xxxvi. 24.)

^c It is a mistake to suppose that such axes have been "inserted vertically" (*i.e.* longitudinally) "into a wooden handle by being driven in for about 2 inches at the narrow end, the grain of the wood (still adhering to the bronze when found) running in the same direction as the longest dimension of the celt" (*Archaeologia*, xliii. 445). If the axe is fixed in such a handle as fig. 20 the grain of the shorter bent part of the handle runs in the same direction as the blade.

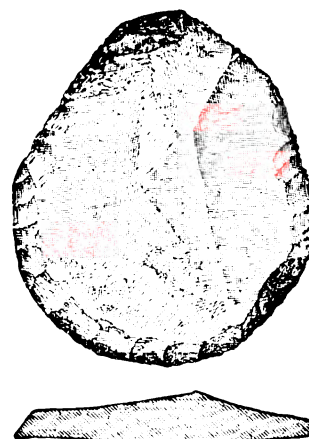
PERIOD I.



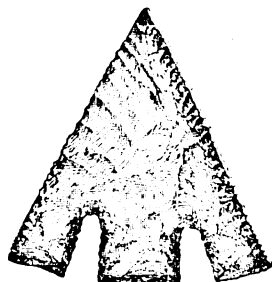
1. Mildenhall, Suffolk : flint. ($\frac{1}{2}$.)



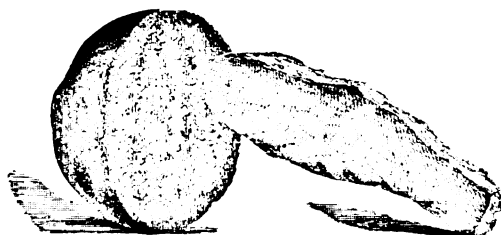
2. Garton, E. R. Yorks. : flint. ($\frac{1}{2}$.)



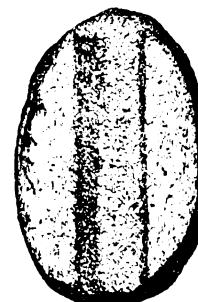
3. Rudstone, E. R. Yorks. : flint. ($\frac{1}{2}$.)



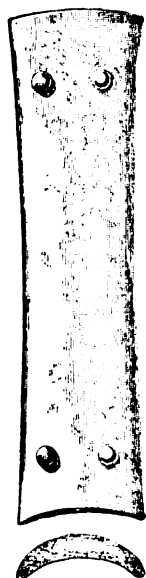
4. Rudstone, E. R. Yorks. : flint. ($\frac{1}{2}$.)



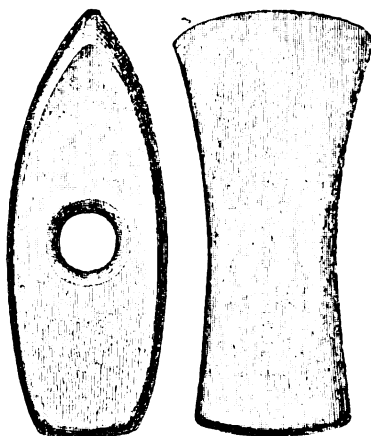
5. Rudstone, E. R. Yorks. : flint and iron-pyrites (for obtaining fire). ($\frac{1}{2}$.)



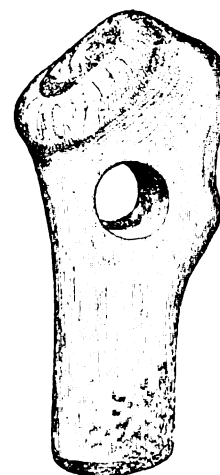
6. Roundway, Wilts. : stone. ($\frac{1}{2}$.)



7. Kelleythorpe, E. R. Yorks. : bone. ($\frac{1}{2}$.)



8. Cowlam, E. R. Yorks. : stone. ($\frac{1}{2}$.)

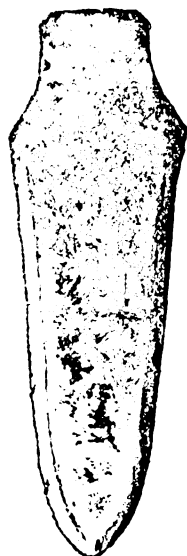


9. Lambourn, Berks. : horn. (L. $6\frac{1}{2}$ in.)

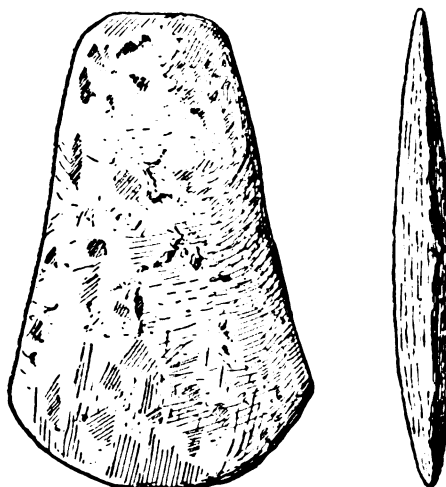
BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD I.

Published by the Society of Antiquaries of London, 1908.

PERIOD I.



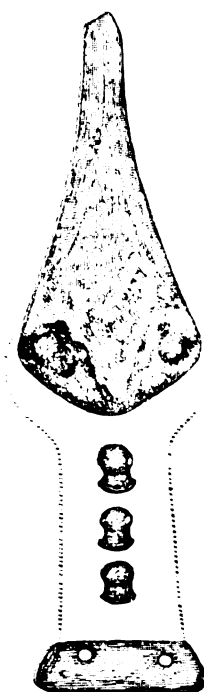
10. Winterslow, Wilts: copper. ($\frac{1}{2}$.)



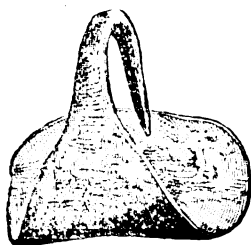
11. Ireland: copper. ($\frac{3}{4}$.)



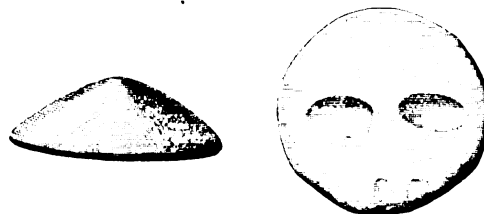
14. Collessie, Fifeshire: gold. ($\frac{1}{4}$.)



12. Helporthorpe, E. R. Yorks: copper. ($\frac{1}{4}$.)



13. Cowlam, E. R. Yorks: copper. ($\frac{1}{4}$.)



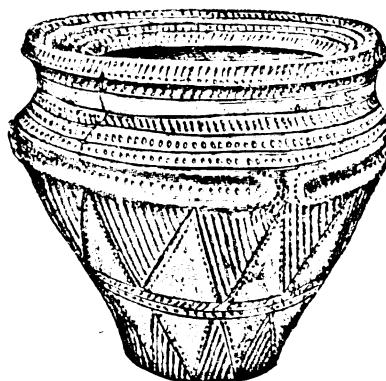
15. Crawford Moor, Lanarkshire: jet. ($\frac{1}{4}$.)



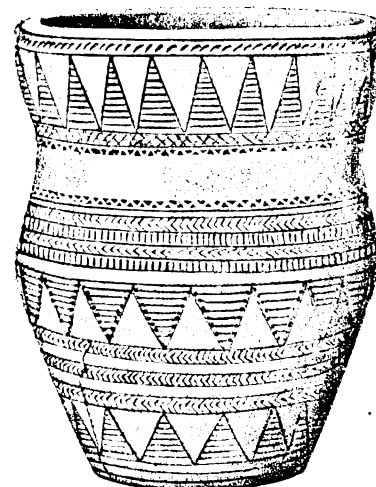
16. Goodmanham, E. R. Yorks: copper. ($\frac{1}{4}$.)



17. Winterslow, Wilts: pottery. ($\frac{1}{4}$.)



18. Alwinton, Northumberland: pottery. ($\frac{1}{4}$.)



19. Inveramsy, Aberdeenshire: pottery. ($\frac{1}{4}$.)

BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD I.

Published by the Society of Antiquaries of London, 1908.

Small daggers of copper (or poor bronze), as fig. 12. No tang; rivets. Blade broad, flat, thin and short, often rounded at the narrow end. Handle of horn or similar material (not metal); the shape of its lower end can sometimes be seen by traces left on the metal; pommel of bone; wooden sheath.

No long daggers.

No swords.

No socketed spear-heads.^a

Gold. The most important golden relic from this period is a cup of the same shape as the "drinking cups" (fig. 21). Remarkable also are the gold-headed rivets in a bracer (fig. 7).

Beads of amber and jet.

Conical buttons, of stone (jet), amber, shale, bone, ivory, or wood covered with gold (first or second period), in the base of which two converging holes are drilled so as to form a V-shaped passage, through which the cord for attachment could be passed (fig. 15).

Pottery. The most characteristic fictile vessels of this period are such as figs. 17, 19, 24, 27, 36, and 37; they are usually called "drinking cups."^b

Other characteristic vessels of this period have been called "food vessels" (fig. 18).

Burials, in barrows or cairns.

Unburnt bodies, contracted (legs drawn up) or extended; sometimes in a coffin made of the split and hollowed trunk of a tree (oak, fig. 31, or elm).^c

Burnt bodies; the bones deposited in cists or urns.

^a Tanged dagger-blades have erroneously been called "spear-heads."

^b Thurnam, in *Archaeologia*, xliii. 388; J. Abercromby, "The Oldest Bronze-Age Ceramic Types in Britain," in the *Journal of the Anthropological Institute*, xxxii. 373; Idem, "A Proposed Chronological Arrangement of the Drinking Cup or Beaker Class of Fictilia in Britain," in the *Proceedings of the Society of Antiquaries of Scotland*, xxxviii. (1904), 323.

^c For wooden coffins from the Bronze Age and later periods, found in England and Scotland, see *Proceedings of the Society of Antiquaries of Scotland*, xxxix. 182. Oak coffins hollowed out in the same manner were also used in England after the introduction of Christianity. Thomas Wright, "On some Curious Forms of Sepulchral Interment found in East Yorkshire," in the *Gentleman's Magazine*, 1857, pt. ii. 114. For similar oak coffins found in Scandinavia, and dating from the Bronze Age and later periods, see Montelius, *Grafkistor af klufna och urhålkade stockar*, in the *Svenska Fornminnesföreningens tidskrift*, ix. 17.

It is most remarkable that the custom of burning the bodies appears so early in Great Britain. In Scandinavia this custom appears only in an epoch corresponding to the third period of the British Bronze Age.^a

Hoards are rare.

Some finds from the first period here follow :^b

Burials.

A. Unburnt bodies in barrows or cairns.

England and Wales.

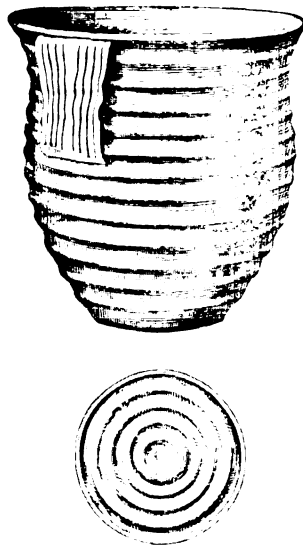


Fig. 21. Gold cup, Rillaton, Cornwall. ($\frac{1}{2}$.)

1. *Berkshire, Blerbury.* Barrow. Dagger blade of copper (or bronze), with two rivet holes.^c

2. *Cornwall, Rillaton.* Barrow. Gold cup (fig. 1), "accompanied by what appears to have been a bronze dagger" (erroneously called a celt^d).

3. *Derbyshire, Haddon Field.* Barrow. Contracted skeleton. Arrow-head of flint; instrument of stag's horn like a netting mesh; bronze awl; and drinking-cup.^e

4. *Derbyshire, Hartington.* Barrow ("Carder Low"). Contracted skeleton. Perforated axe-head of stone and small bronze dagger, broad, with three large rivets.^f

5. *Derbyshire, Hartington.* "Parcelly Hay Barrow."

^a A burial with burnt bones from a somewhat earlier time, corresponding to the end of the second period of the British Bronze Age, has just been discovered in Dithmarschen. C. Rothmann, *Ein Grabhügel der Bronzezeit bei Schafstedt in Dithmarschen*, in the *Mitteilungen des Anthropologischen Vereins in Schleswig-Holstein* (Kiel, 1907), 14.

^b I give here, as for the other periods, a description of some of the most important discoveries only. These lists are of course far from being complete.

^c *Archaeological Journal*, v. 282; *British Archaeological Association Journal*, xvi. 249.

^d *Archaeological Journal*, xxiv. 189; J. Evans, *The Ancient Stone Implements, Weapons, and Ornaments of Great Britain*, 2nd edition (London, 1897), 448.

^e Thomas Bateman, *Ten Years' Diggings*, 106; J. Evans, *Bronze Implements* (1881), 190.

^f Thomas Bateman, *Vestiges of the Antiquities of Derbyshire* (London, 1848), 63; *Archaeologia*, xliii. (J. Thurman, *On Ancient British Barrows*), pl. xxxiii. fig. 4; Evans, *Stone*, 194; *Idem*, *Bronze*, 225.

Above the covering stones of the primary interment: contracted skeleton. Perforated axe-head of stone; small bronze dagger.^a

6. Derbyshire, *Kens Low Farm*, near Middleton-by-Youlgrave. In the centre of the barrow, in a cist or excavation in the soil: two skeletons, laid at full length, side by side; axe-hammer of stone; "porphyry slate pebble, polished;" and circular "fibula" of copper or bronze. About 6 feet from the centre of the barrow: human bones and bracer of bone, with two holes.^b

7. Derbyshire, *Minning Low*. Barrow, skeleton. Rude spear- or arrow-head of flint; small copper (or bronze) pin, pointed at each end; and highly decorated drinking-cup. Close to it a quantity of calcined human bones. In the immediate neighbourhood of this interment several horse-teeth and other animal bones were noticed.^c

8. Derbyshire, *Parwich Moor*, near Minning Low. Barrow ("Shuttlestone"). Skeleton, "surrounded by fern leaves and enveloped in a hide with the hair inwards." Scraper of flint; flat bronze axe (the grain of the wood, still adhering to the bronze when found, running in the same direction as the longest dimension of the celt);^d bronze dagger (broad, flat blade, two rivets, handle of horn); bead of jet.^e

9. Derbyshire, *Youlgrave* (1843). Near the outer edge of a barrow ("Borther Low"): skeleton; arrow-head of flint ("much burnt"); diminutive bronze axe, "of the most primitive type, closely resembling the stone celts in form"; plain coarse urn; and a pair of teeth of a fox or a dog.^f

10. Wiltshire, *East Kennet*, near Avebury. Barrow. Grave, sunk in the chalk, 5 feet deep, covered with a simple vault of stones (fig. 22). Contracted skeleton; stone hammer, perforated (fig. 23); bronze dagger, broad, flat blade, three rivets; drinking-cup (fig. 24).^g

^a J. B. Davis and J. Thurnam, *Crania Britannica*, ii. 18; Evans, *Stone*², 214; Idem, *Bronze*, 225.

^b Bateman, *Vestiges*, 28; Evans, *Stone*², 214.

^c Bateman, *Vestiges*, 41.

^d This does not prove that the axe "had been inserted vertically into a wooden handle." The handle was knee-shaped, as fig. 20.

^e *British Archaeological Association Journal*, vii. 217; Bateman, *A Descriptive Catalogue of the Antiquities in the Museum of Thomas Bateman at Lomberdale House, Derbyshire* (Bakewell, 1855), 15, Idem, *Ten Years' Diggings*, 34; *Archaeologia*, xliii. 445; Evans, *Bronze*, 42.

^f Bateman, *Vestiges*, 48; Idem, *Catalogue*, 74; Evans, *Bronze*, 42.

^g *Archaeological Journal*, xxiv. 29; *Archaeologia*, xliii. 315, 392, 410, 452, pl. xxxiii. fig. 2; Evans, *Stone*², 193; Idem, *Bronze*, 226.

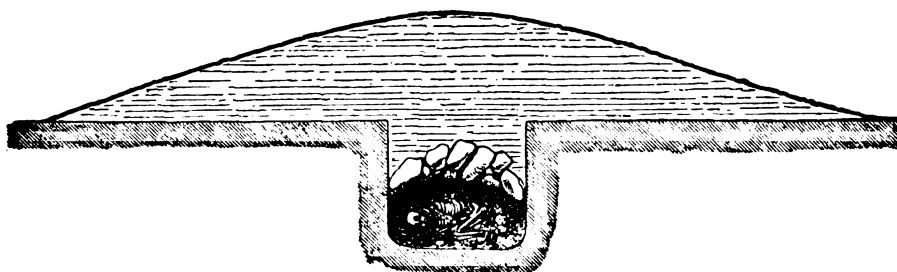


Fig. 22. Section of Barrow, East Kennet, Wilts.

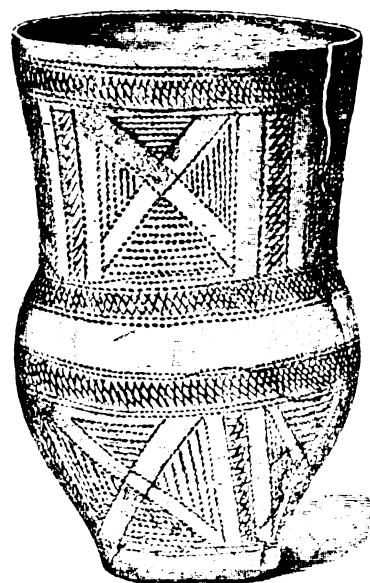
Fig. 23. Stone axe-hammer,
East Kennet, Wilts. (4.)Fig. 24. Drinking-cup, East
Kennet, Wilts. (H. 7½ in.)

Fig. 25. Bronze Age burial, Roundway Down, Wilts.

11. Wiltshire, *Mere Down*. Barrow. Contracted skeleton; dagger of copper (?) with a broad tang, bracer of stone (near the left side.)^a

12. Wiltshire, *Roundway Down*, near Devizes. Barrow. Grave, sunk in the chalk rock, 5 feet long and 6 feet deep (fig. 25). Contracted skeleton; barbed flint arrow-head (fig. 28); bronze dagger, broad flat blade, wide tang, no rivet-holes (fig. 26); bracer of slate (fig. 29); drinking-cup (fig. 27).^b

13. Wiltshire, *Upton-Lovel* (1802). Barrow. "Near the centre, at the depth of nearly 3 feet, we found a skeleton" (large, probably of a man) "lying on its back with the head to the north; on clearing away the earth, we discovered



Fig. 26. Copper blade with tang, Roundway Down. (4.)

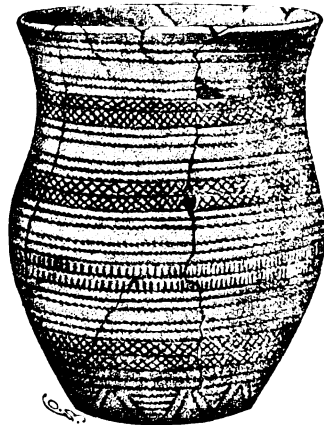


Fig. 27. Drinking-cup, Roundway Down, Wilts. (4.)



Fig. 28. Flint arrow-head, Roundway Down. (4.)

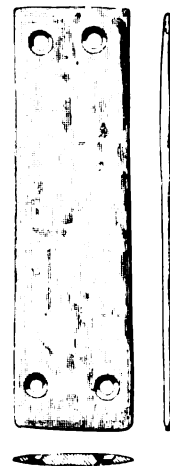


Fig. 29. Slate bracer, Roundway Down. (4.)

another" (much smaller, probably his wife) "in a sitting posture, the head and hands of which were within 10 or 12 inches of the surface. The cist in which they were interred was nearly of an oval form, excepting a small variation to the left of the larger skeleton to make room for the other body." In the grave: one chipped and two polished flint axes, a perforated stone hammer, a rubbing-stone (fig. 6), for smoothing the shafts of arrows, a circular stone, some other stones, more than sixty pointed bone instruments, with a hole at the broad end; several

^a Sir Richard Colt Hoare, *Ancient Wiltshire*, i. 44, pl. ii.; Evans, *Bronze*, 223.

^b *Crania Britannica*, 42; *Archaeologia*, xliii. 317, 450, pl. xxxii. fig 1; Evans, *Bronze*, 223.

boars' tusks, perforated at the broad end; a ring and nine beads of jet, a bead of bone, an awl of copper.^a

14. Wiltshire, *Winterslow* (1814). Barrows. Two daggers of copper (?), with broad tangs. One of the barrows at Winterslow is shown in section (fig. 30); primary grave, 4 feet deep, with contracted skeleton and a drinking-cup; secondary burnt interment in urns inverted.^b

15. Yorkshire, *Cowlam*, near Weavertorpe. Barrow. At the centre was an oval grave (N.W. to S.E.), $8\frac{1}{2}$ feet by 6 feet, and $3\frac{3}{4}$ feet deep. On the bottom: the contracted body of a young man; perforated axe-hammer of green stone (fig. 8), it lay in front of the face, the edge towards the face, and the remains of the wooden handle still grasped by the right hand; two round scrapers of flint; a flint flake; and three shapeless pieces of jet; "a quantity of charcoal surrounded the body" (= oak coffin?).

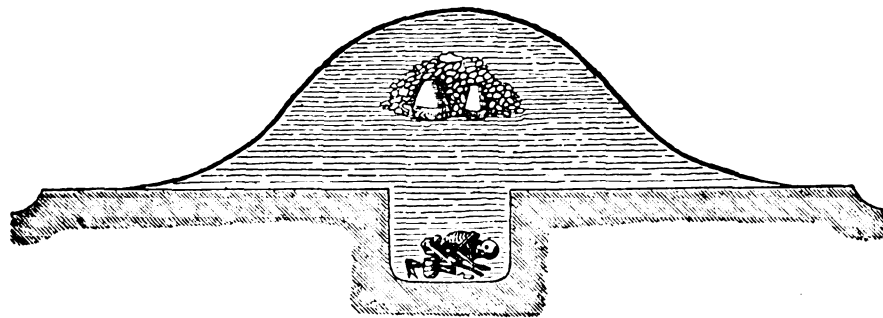


Fig. 30. Section of barrow, Winterslow, Derbyshire.

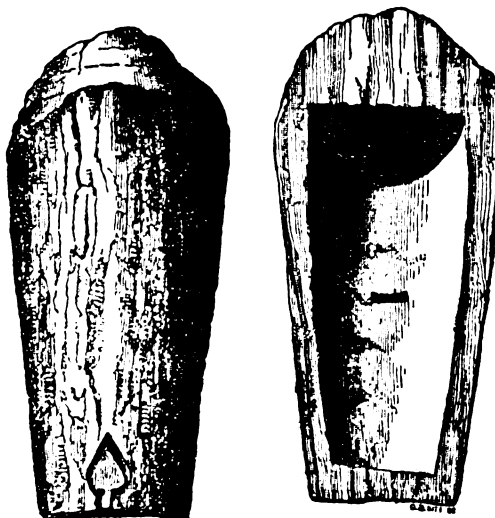
Amongst the earth in the grave were some bones of a disturbed body, three potsherds, and a conical button of jet (as fig. 15), having the usual perforation at the back. Immediately to the north of this grave, and connected with it by an opening 2 feet wide, was a second grave (N.E. to S.W.), 6 feet by $4\frac{1}{2}$ feet, and 3 feet deep. On the bottom was a body, "probably that of a woman," in the usual contracted form. Touching the temporal bones, which were stained green by contact, were two ear-rings of copper or bronze (fig. 13). Behind the head were two formless pieces of jet. Under the body, and covering the bottom of the grave, was a great quantity of decayed wood.^c

^a Hoare, *South Wilts, Tumuli*, pl. v.; *Archaeologia*, xv. 122, pls. ii.-v.; Evans, *Stone*², 88, 213 (fig. 141), 244, 267, 431, 456.

^b Hoare, *Ancient Wiltshire*, i. 44, pl. ii.; *Archaeologia*, xliii. 449, pl. xxxii. figs. 2, 3; Evans, *Bronze*, 223.

^c W. Greenwell, *British Barrows* (Oxford, 1877), 222.

16. Yorkshire, *Gristhorpe* (1834). Cairn (tumulus of stones) over a grave dug to the depth of 6 or 7 feet in the clay. At the bottom of the grave: coffin of oak (fig. 31), 7 feet 9 inches by 3 feet 3 inches, which lay in the meridian line, with a number of oak branches thrown over it; a layer of clay covering the whole. In the bottom, near the centre, is a hole (3 inches by 1 inch) to carry off fluids. At the narrow end of the lid, cut in the bark, was a sort of leaf-shaped knob, perhaps intended for a handle; no resin used to fix the lid. The coffin "contained a quantity of water" and the skeleton of a large and strong man (about 70 years; brachycephalic skull), laid on his right side, with the head to the south, and the face to the east. He must have been contracted,^a because the length of the skeleton was 6 feet 2 inches, but the interior of the coffin only 5 feet 4 inches; the bones were



31. Oak coffin, Gristhorpe, Yorks.

of an ebony colour. The body had been wrapped in the skin of some animal (sheep or goat? hair soft and fine), fastened at the breast with a pin of bone. "With the decayed skin were a few phalangeal bones, said to be those of a weasel, the skin of which, with the feet attached, may have formed part of the dress." On the lower part of the breast was an ornament of a very brittle material, in the form of a rosette, with two loose ends. In the coffin: the flint head of a small javelin; two flint flakes; dagger of bronze (broad, flat blade; two rivets; pommel of bone); wooden knife; the fragment of a ring of horn; basket (6 inches in diameter), formed of bark, "curiously stitched with the sinews of animals; at the bottom were decomposed remains, perhaps of food. There was also a quantity of vegetable substance, mixed with lanceolate foliage, supposed to be that of mistletoe."^b

^a Consequently, the head has been placed in the narrow and the feet in the broad end of the coffin.

^b William C. Williamson, *Description of the Tumulus lately opened at Gristhorpe, near Scarborough* (2nd edition); the author, observing that this burial cannot be from the later Roman period, says that it is probably not earlier than two or three centuries before, or later than the first century of, our era; *Crania Britannica*, 52; Evans, *Bronze*, 228.

17. Yorkshire, *Helperthorpe*. Barrow. Contracted skeleton; dagger-blade of copper (or bronze) with rivets and bone termination of the handle (fig. 32).^a



Fig. 32. Bone dagger-pommel, Helperthorpe, Yorks. (†)

18. Yorkshire, *Kellythorpe*, near Driffeld. Barrow. Stone cist (3 feet 9 inches by 4 feet 2 inches): contracted skeleton; small dagger of copper or bronze, broad, flat blade, wide tang with one rivet, wooden sheath; wrist-guard of bone (fig. 7), its bronze rivets with gold heads; lay on the right arm; near it was a very small buckle of copper or bronze; three amber buttons (beads), with V-perforation; drinking-cup; hawk's head.^b

19. Yorkshire, parish of *Willerby*, Wold Farm. Barrow, 45 feet in diameter, 2 feet high, and made of earth, flint stones, and chalk. Within the circumference of the mound was a circular trench excavated beneath the natural surface for a depth varying from 12 inches to 18 inches, and being from 14 inches to 18 inches in width. It surrounded the central part of the mound with a diameter of 20 feet. At the centre of the mound, for a space of about 12 feet in diameter, the original surface had been much burnt, a large fire having evidently been alight there for a long time. Through this burnt space a grave had been sunk to a depth of 8 feet into the chalk rock, having a diameter of 8 feet 10 inches at the top, and narrowing at 1½ foot above the bottom to 4 feet. After this grave had been filled in over the bodies deposited in it, a secondary one had been cut into it to a depth of 3½ feet, with a diameter of 6½ feet. Within this a fire had been made and kept burning sufficiently long for the bottom and sides to have become completely reddened for a depth of 3 or 4 inches. On the bottom of the original grave, at its centre, were two bodies laid in opposite directions, partly overlying each other. No objects. On the burnt bottom of the secondary grave, at its centre, was a body laid on the left side, the hands being in front of the face, just touching which was a flint knife. Within the limits of this secondary grave, towards the north side, and 1½ foot above the bottom, was a body laid on the left side, the hands being in front of the face. Just beyond the hands was a drinking-cup and beyond it a round flint scraper, while behind the head were a small round flint scraper and the half of another. For a hoard of bronze axes discovered in this barrow, see No. 63.^c

^a Greenwell, *British Barrows*, 207; Evans, *Bronze*, 227.

^b *Archaeologia*, xxxiv. 255, pl. xx.; Evans, *Bronze*, 223; J. R. Mortimer, *Forty Years' Researches in British and Saxon Burial Mounds of East Yorkshire* (London, 1905), 271.

^c *Archaeologia*, lii. 2.

B. Unburnt bodies. No barrow or cairn.

Scotland.

20. *Letham*, in *Tibbermuir* parish, near *Perth*. Cist covered with a cup-marked slab (fig. 33). One side of the cist was formed of the rock, the other three sides of slabs, plastered together with red clay. In the cist: unburnt bones and a small thin dagger-blade of copper (or bronze), with three small rivets.^a

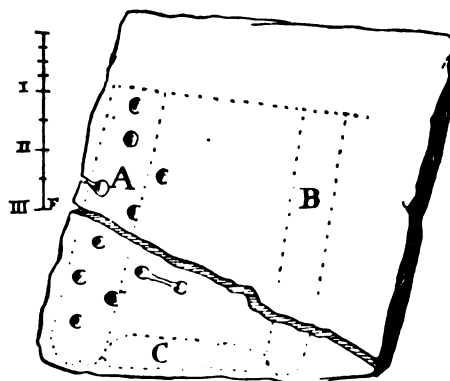


Fig. 33. Cup-marked stone, *Letham*, *Perth*.

C. Burnt bodies, in barrows or cairns.

England and Wales.

21. *Berkshire*, parish of *Lambourn*. Barrow. At the centre was an oval grave (N.E. to S.W.), $3\frac{1}{2}$ feet long, $2\frac{1}{2}$ feet wide, and 9 inches deep. In it were placed the burnt bones of an adult man, and upon them two perforated hammers, the one of stone, the other made from the shed antler of a red deer (fig. 9);^b they showed no signs of having passed through the funeral fire. Still upon the bones was an "incense-cup," perforated near the top with six small holes in pairs. At the side of the deposit of bones was a tanged bronze knife. "Six feet E. by S. of the centre of the barrow, and 1 foot above the original surface, was a circular hole, 10 inches in diameter and 6 inches deep, entirely filled with charcoal. Around the centre the ground surface was covered for a space about 4 feet square with charcoal and wood ashes, and, though the soil was not reddened, I think it probable that this was the site of the funeral pile."^c

^a *Proceedings of the Society of Antiquaries of Scotland*, xxxi. 181.

^b A similar hammer of horn was found in a barrow at *Cowlam*, in *Yorkshire*, not far from that mentioned, No. 15; *Greenwell*, l.c. 43, fig. 33, and 217.

^c *Archaeologia*, lii. 60.

22. *Devonshire, Broad Down, Farway, near Honiton.* Barrow (fig. 34), forming one of a group of nine,^a "and occupying a part of the moor that had not yet (in 1869) been brought under cultivation." It is 70 feet in diameter and

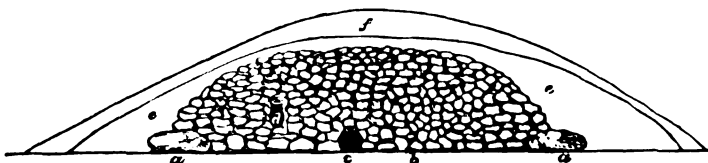


Fig. 34. Section of barrow, Broad Down, Devon.

6 feet high. The spot to be occupied by the tumulus was marked out by a circle of large boulders (*a*) placed at intervals about 3 feet apart. Within this inclosure the interments were deposited, and a mass of stones (*b*) was loosely piled upon them until the mound reached the required height; the whole was then covered with burnt earth (*e*) to the depth of about a foot on the summit, and more abundantly on the sides, and was finally capped with a layer of surface-earth (*f*), so as to give to the barrow a rounded outline and conceal from view the cairn of stones beneath. At the centre an earthen vessel was found (*c*). "Around it were fragments of charcoal and patches of black unctuous mould, whilst underneath it was a deposit of *burnt bones*, free from ashes or any extraneous matter; much care seemed to have been exercised in separating the human remains from the *débris* of the funeral pyre." About 18 feet to the east of the centre a drinking-cup was found (*d*), "protected by a rude dome of flints." At a short distance to the west of it was a layer of *burnt bones*, resting upon the flints, 2 feet above the natural surface of the ground.^b

23. *Lancashire, Winwick.* Barrow. In an urn, among burnt bones: perforated stone hammer; bronze dagger, with a tang and one rivet.^c

Scotland.

24. *Fifeshire, Collessie* (1876 and 1877). Large cairn, only stones and boulders (fig. 35):

(*a*) Grave, excavated to a depth of 4 feet underneath the natural level

^a For other barrows situated on Broad Down, see Nos. 54 and 55.

^b *Transactions of the International Congress of Prehistoric Archaeology, Norwich and London, 1869*, p. 370, pl. i. figs. 3 and 388.

^c *Archaeological Journal*, xviii. 158; Greenwell, *l.c.* 159, note; Evans, *Stone*², 212.

(fig. 35 *a*): burnt human bones; broad, thin, flat dagger of bronze (pommel of

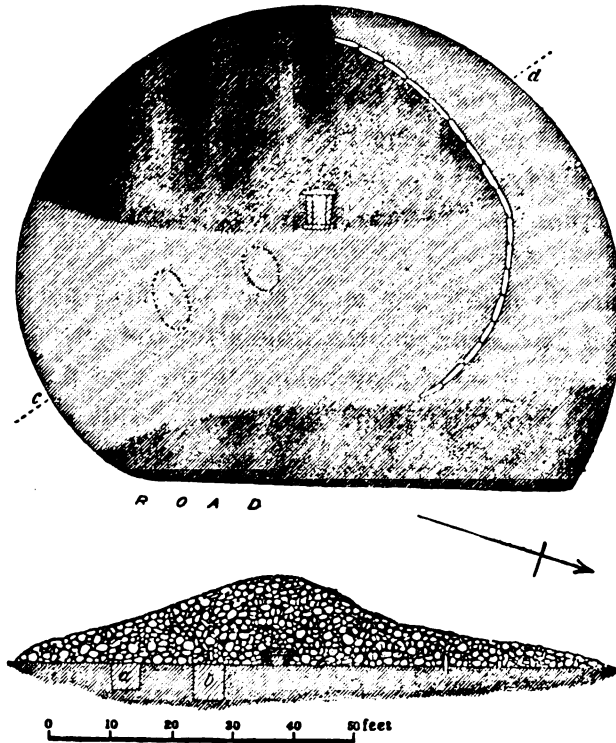


Fig. 35. Plan and section of barrow, Collessie, Fifeshire.

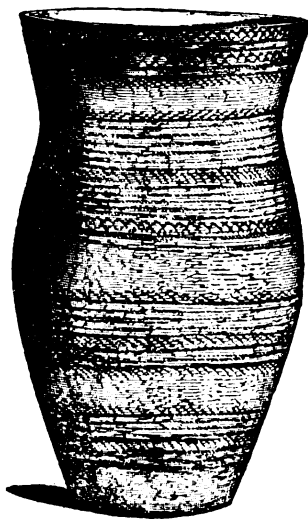


Fig. 36. Drinking-cup, Collessie (central cist). (H. 9 in.)

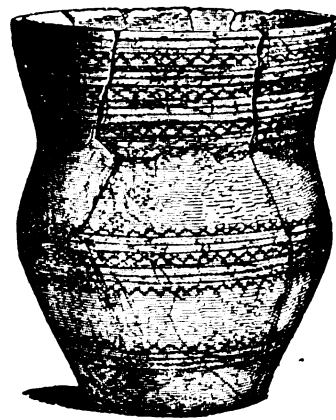


Fig. 37. Drinking-cup, Collessie (Grave *b*). (H. 7 in.)

gold, fig. 14); sheath of wood, covered with cowhide, with the hair outwards.

(b) Grave, excavated to a depth of 6 feet (fig. 35 b): ashes and charcoal (no bones); drinking-cup (fig. 37).

(c) Near the centre of the cairn. Cist of four slabs, covered with a fifth, and placed on the natural surface of the ground, near the centre of the cairn (the interior of the cist was $4\frac{1}{2}$ feet in length): skeleton; drinking-cup (fig. 36).^a

Because it has always been possible to open the cairn, the graves *a* and *b* may be later than the central grave *c*, which is placed on the natural surface.^b

These burials are probably not later than the first period. The following instances of cremation date also from the time after the introduction of copper (or bronze), but it is not quite clear if they belong to the first period or the beginning of the second period. Stone hammers and arrow-heads of flint were used also after the end of the first period, and at least some of the bronze objects found in these graves might be as well from the first period as from a later time.

25. *Derbyshire, Throwley*. Barrow. In a large urn with calcined bones: double-edged stone hammer, perforated (injured by fire); flint "spear-head"; bone pins; tubular bone laterally perforated; bronze awl, with traces of a wooden handle.^c

26. *Middlesex, Teddington*. Barrow. Traces of combustion, extending several feet around, were perceived, the sand of which the barrow was entirely composed being burnt to a brick colour, while fragments of charcoal were distributed in various directions. In the very centre of what we must consider as the site of the funeral pile, was a heap of calcined bones, upon which lay the bronze blade of a dagger. No traces of an urn; but scattered on the floor of the grave were several flakes of flint.^d

27. *Wiltshire, Selwood*, near Stourton. Barrow. In a cist: burnt bones; stone hammer; small dagger of bronze.^e

28. *Yorkshire, Danby North Moors*. Barrow. A perforated stone hammer lay with the hole in a vertical position, about 15 inches above a deposit of burnt bones.^f

^a J. Anderson, *Scotland in Pagan Times; the Bronze and Stone Ages*, 3.

^b *Proceeding of the Society of Antiquaries of Scotland*, xii. 439.

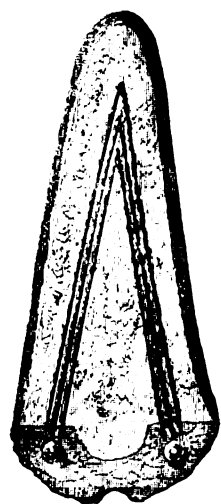
^c Bateman, *Ten Years' Diggings*, 155; Evans, *Stone* ², 186; Idem, *Bronze*, 190.

^d *Archaeologia*, xxxvi. (1854), 175.

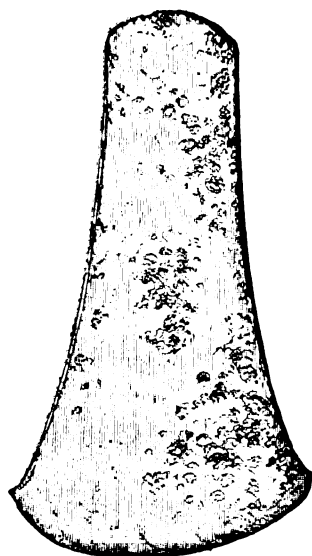
^e Hoare, *Ancient Wiltshire*, i. 39, pl. i.; Greenwell, *l.c.* 265, note; Evans, *Stone*, ² 211, fig. 140.

^f Evans, *Stone* ², 211.

PERIOD II.



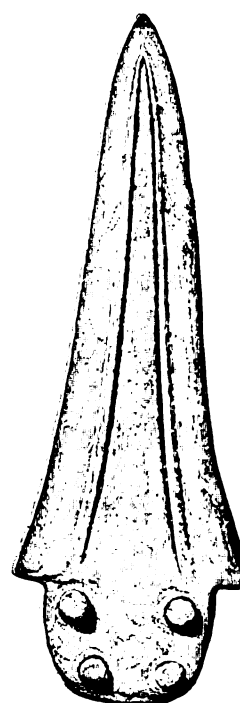
38. Dow Low,
Derbyshire. ($\frac{1}{2}$.)*



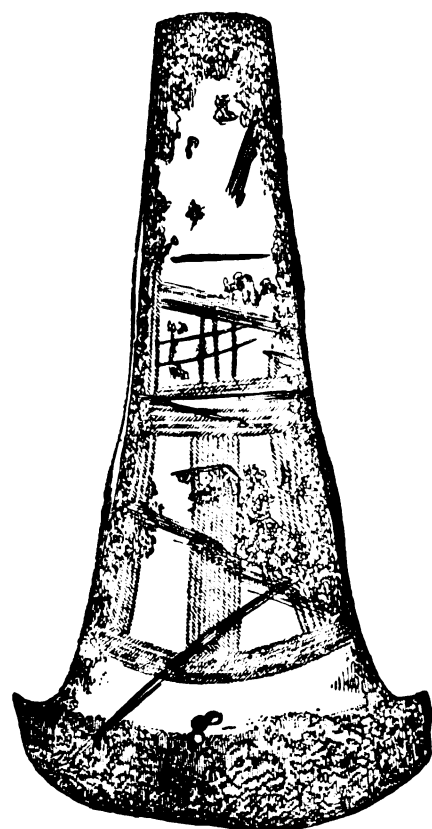
39. Sluie, Elginshire. (L. 6 in.)



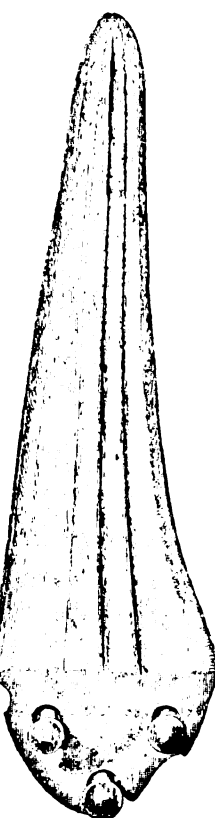
40. Suffolk. ($\frac{1}{2}$.)



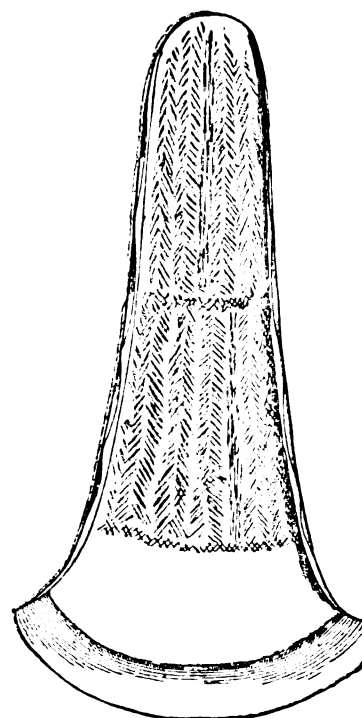
41. Stranraer, Wigtown-
shire. ($\frac{1}{2}$.)



42. Yorkshire. ($\frac{1}{2}$.)



43. Ireland. ($\frac{1}{2}$.)



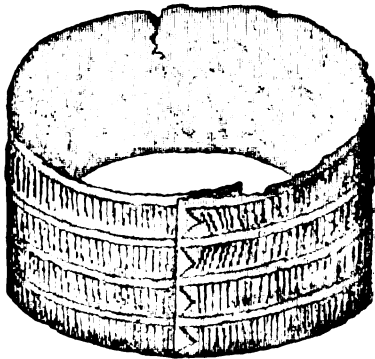
44. Ireland. ($\frac{1}{2}$.)

* This dagger and all other objects, the material of which is not indicated, are of bronze.

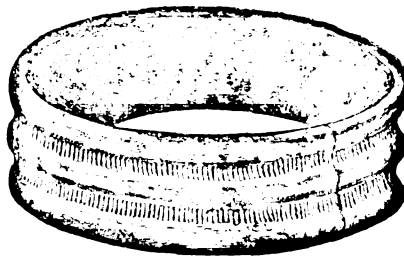
BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD II.

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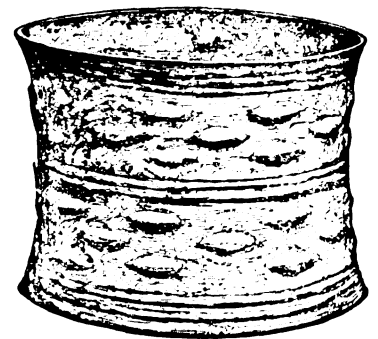
PERIOD II.



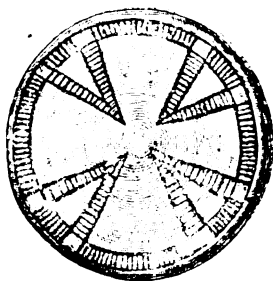
45. Normanton, Wilts. (½.)



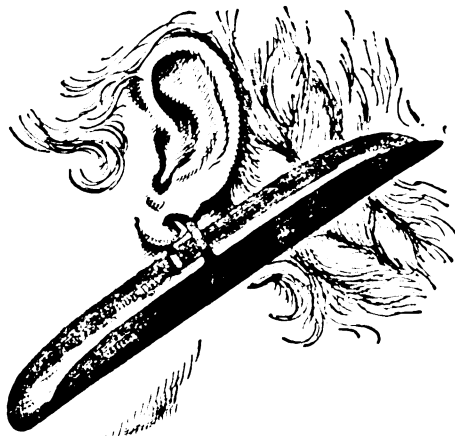
46. Migdale, Sutherlandshire. (½.)



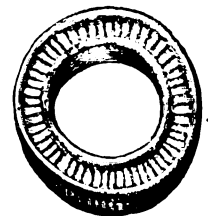
47. Melfort, Argyleshire. (½.)



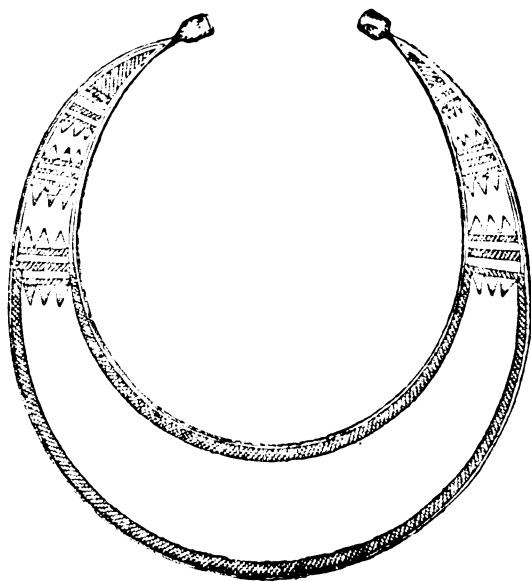
48. Rudstone, E. R. Yorks. : jet. (½.)



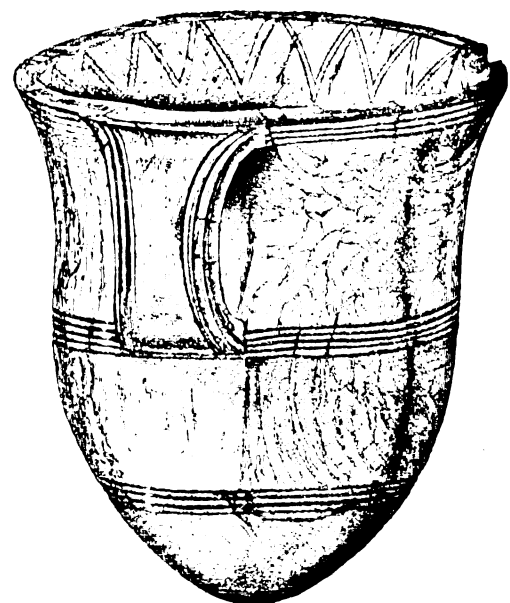
49. Orton, Morayshire : gold. (½.)



50. Rudstone, E. R. Yorks. : jet. (½.)



51. Ireland : gold. (H. 7 in.)



52. Broad Down, Devon : shale. (½.)

BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD II.

Published by the Society of Antiquaries of London, 1908.

29. Yorkshire, near *Scarborough*. Ravenshill barrow. In an urn with calcined bones: broken flint axe; some arrow-heads and flakes of flint; bronze pin.^a

30. Yorkshire, *Skelton Moors*. Barrow. In an urn: burnt bones; perforated stone hammer; and some fragments of burnt flint.^b

PERIOD II.

The First Period of the Bronze Age, properly so-called.

Weapons and implements of stone are already extremely rare, but some axe-hammers of stone occur in finds from this period.

Bronze with much tin (about 10 per cent.) appears early in this period, no doubt because England (Cornwall) is so rich in tin.^c

The most characteristic types of bronze in the second period are:

Flat axes ("celts," figs. 39 and 42); the edge generally much broader than the upper part of the blade. Moulds for such axes, see fig. 53.

^a Evans, *Bronze*, 190.

^b Evans, *Stone* 2, 211, fig. 139.

^c Two bronze axes of British types from an early part of the second period, found in Sweden (figs. 206 and 208), contained:

	Copper.	Tin.	Antimony.	Nickel.	Other substances.
Fig. 206.	89.08	10.87	—	0	0.05
Fig. 208.	89.76	6.75	2.36	0.15	0.98

Montelius, *Die Chronologie der ältesten Bronzezeit*, pp. 56 and 122.

It has been suggested that some British axes from the 2nd period which present a peculiar coating of metallic tin may have been purposely tinned. The analysis of the coating of two axes found at Sluie (No. 68) gave:

Tin	24.36	32.78
Copper	15.49	18.14
Carbonate and Hydrate of Copper	60.15	49.08
	100	100

and it seems, as it has been remarked, more probable that the high percentage of tin may be due to the gradual rusting away of the copper of the bronze, which would leave an excess of tin on the surface. Anderson, 165 n.; J. A. Smith, "Notice of Bronze Axe-heads which have apparently been tinned," in *Proceedings of the Society of Antiquaries of Scotland*, ix. 428; Evans, *Bronze*, 56; cf. Montelius, *Die Chronologie der ältesten Bronzezeit*, 148.

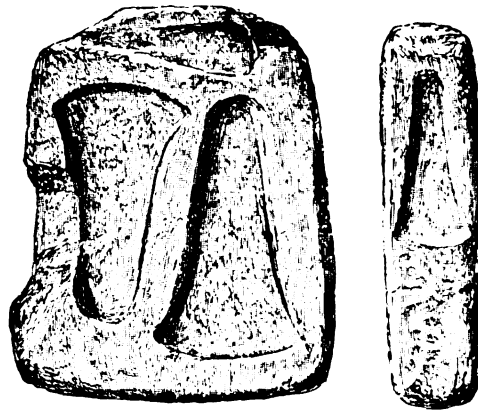


Fig. 53. Stone mould for flat celts. Insch, Aberdeenshire. (4.)

Flanged axes ("celts"); usually the edge is very broad (fig. 42); the flanges, or projecting ledges along the sides, are at first but slightly raised; later on, they grow higher. The faces of these later blades taper often in each direction from a low transverse ridge. Not infrequently the blade is ornamented with chevrons or other linear patterns. On the sides sometimes a kind of cable pattern or spiral fluting is seen,^a other sides are ornamented with a succession of flat lozenges (fig. 42).

No winged axes.

No axes with stop-ridges.

No socketed axes.

Daggers as fig. 38. No tangs; bronze rivets. Blade broad, often longer than in the first period; flat or with a central rib; sometimes ornamented with lines running along the edges. Some dagger-blades are said to have "a brilliant silvered appearance."^b Handle of horn or similar material, sometimes ornamented with thousands of extremely small gold pins (fig. 68); the shape of its lower end can sometimes be seen by traces left on the metal, or by a line of small punched indentations (figs. 38, 65, 72, and 74); pommel of bone. Wooden sheath.

"Halberds" (figs. 41 and 43), dagger-shaped blades inserted at right angles into the handle; large rivets (usually three). This was a very practical method of getting a longer weapon than the dagger at a time when the blade was still short.^c

No swords.

No socketed spear-heads.

Gold. Semilunar ornaments for the neck ("lunulæ" or "lunettes") as fig. 51.^d

^a Evans, *Bronze*, fig. 23.

^b Thurnam, in *Archæologia*, xliii. 452. See find No. 37 (and 66, 68) in this paper.

^c Montelius, *Die Chronologie der ältesten Bronzezeit*, 27 (Germany and Sweden), 206 (Italy, rock-carvings), 219 (Spain, wooden handles).

^d These ornaments, very common in Ireland, occur also in England and Scotland. W. R. Wilde, *Catalogue of Gold in Museum of Royal Irish Academy*, 10. William Frazer, "On Gold Lunulæ," in the *Journal of the Royal Society of Antiquaries of Ireland*, 1897, p. 53; Salomon Reinach, *Les croisants d'or irlandais*, in *Revue celtique*, 1900, pp. 76, 166; J. Anderson, *Scotland in Pagan Times*, *Bronze*

Pommels of daggers.

Conical buttons, with V-borings (fig. 48).

Pottery. Urns as figs. 78 and 79.

Some very valuable vessels of amber and shale have been discovered in graves of this period (figs. 62 and 52).

Burials. Unburnt bodies, in barrows. The bodies contracted or extended; sometimes in a coffin made of the split and hollowed trunk of a tree (oak). Unburnt bodies buried in the ground (no barrows). Burnt bodies, in barrows.

Stonehenge, in South Wiltshire, already existed (fig. 54). The diggings



Fig. 54. Copy of the earliest existing drawing of Stonehenge, from a MS. in the British Museum; late sixteenth century.

executed some years ago proved that the stones of this famous temple are worked with tools of stone, and in some neighbouring barrows from this period chips of the "blue stones" forming the inner circle have been found.^a

Avebury, in North Wiltshire, no doubt dates at least from the same age

and *Stone Ages*, 66, 222, 223. Ornaments of this type, evidently exported from Ireland, have also been found on the Continent and in Denmark. Olivier Costa de Beauregard, *Le torques d'or de Saint-Leu d'Esserent*, 19 (with a map for France and Belgium); Sophus Müller, *Ordning af Danmarks oldsager, I Sten-og bronzealderen*, fig. 164; Montelius, *Verbindungen zwischen Skandinavien und dem westlichen Europa vor Christi Geburt*, in *Archiv für Anthropologie*, xix. 9.

^a Gowland, "Recent Excavations at Stonehenge," in *Archaeologia*, lviii. 37. Montelius, "Die Datierung des Stonehenge," in the *Archiv für Anthropologie*, xxx. 139. For a list of authors on Stonehenge, see Edgar Barclay, *Stonehenge and its Earth-Works*.

as Stonehenge.^a It is most remarkable that two such grand temples in so early a period were situated in the same part of the country, at a comparatively small distance from each other.

A great number of smaller stone circles date also from a very early part of the Bronze Age (fig. 76).^b

This period was a very long one, and we can already see what belongs to the earlier and to the later part of it.

From the earlier part of the second period date the flat axes and such small daggers as figs. 63 and 74. It is very difficult to distinguish the beginning of the second period from the end of the first. There was of course no sharp limit between these two subdivisions of the Bronze Age.

From the later part of the second period date the flanged axes and such daggers as figs. 64 and 68.

I. Burials.

A. Unburnt bodies, in barrows or cairns.

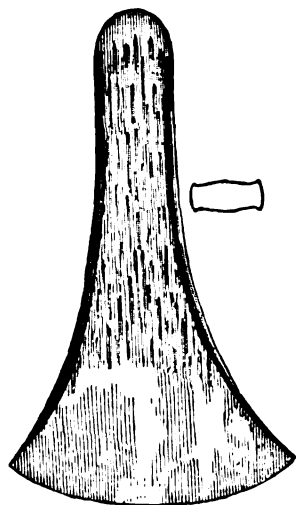


Fig. 55. Flanged celt, Moot Lowe, Derbyshire. ($\frac{1}{2}$.)

31. *Derbyshire*, between Alsop Moor and Dove-dale. In the centre of a barrow ("Moot Lowe") a large cist, cut in the rock. At the west end of the cist: contracted skeleton; bronze axe with slight flanges (fig. 55): and the lower jaw of a small pig. At the other end of the cist, about 5 yards from that skeleton, "were found the skeleton either of a female or young person, and of a few burnt bones, which had been disturbed and thrown together in a heap at some remote period." During the progress of the excavation there occurred part of the antler of a deer, and some horses' teeth."^c

^a The temple of Avebury (or Abury) consists of two stone circles within a large one (surrounded by a fosse). A. C. Smith, *British and Roman Antiquities of North Wiltshire* (2nd edition), 137.

^b H. St. George Gray, "On the Excavations at Arbor Low, 1901-1902," in *Archaeologia*, lviii. 461. Arbor Low is a stone circle in Derbyshire: the plateau on which the rough unhewn stones were placed averages 160 feet (49 m.) in diameter, and is, as fig. 76, enclosed by a fosse, still $5\frac{1}{2}$ feet deep, and a vallum, on the outside 7 feet high above the general surrounding turf-level; two entrances, as in fig. 76. A barbed arrow-head of flint has been found on the bottom of the deepest portion of the fosse; such arrow-heads are characteristic of the Copper Age. (Anderson, *l.c.* 97.)

^c Bateman, *Vestiges*, 68; Evans, *Bronze*, 44.

32. Derbyshire, near Hartington, *End Low* (1848). Barrow. A cist in the rock, cut to the depth of 6 feet from the natural surface of the ground, and lying more than 10 feet from the summit of the barrow. The cist was bounded on three sides by natural rock, and the fourth was carefully walled up to a level with

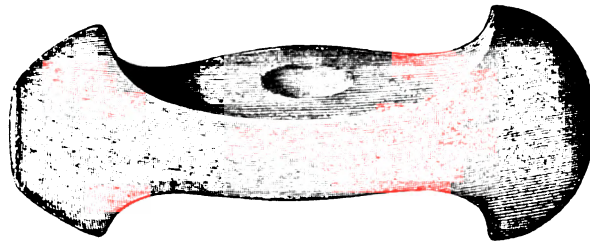


Fig. 56. Stone axe-head, Snowhill, Gloucester. ($\frac{1}{2}$.)

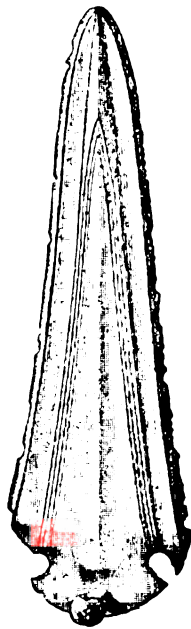


Fig. 57. Bronze dagger, (Snowhill. L. $8\frac{1}{2}$ in.)

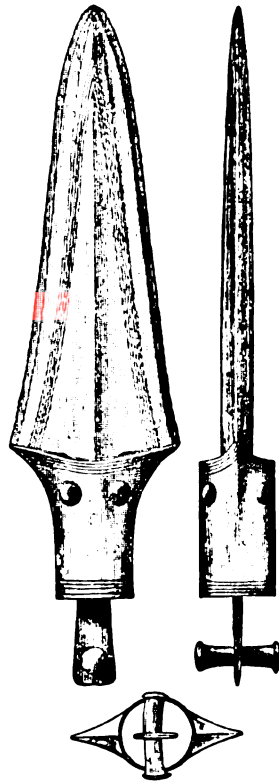


Fig. 58. Bronze dagger, Snowhill. (L. 9.3 in.)



Fig. 59. Bronze pin, Snowhill. ($\frac{1}{2}$.)

the others, with loose limestone. In this grave: skeleton; rudely formed spear-head of flint; and large bronze dagger.*

33. Gloucestershire, *Snowhill*. Barrow. At the centre, and partly sunk

* *Crania Britannica*, 13.

below the level of the natural surface, was a cist formed of four slabs of stone set on edge, with a single stone for a cover, 4 feet long, 3 feet wide, and $2\frac{1}{2}$ feet deep. It contained a skeleton, a perforated axe-hammer of stone (fig. 56), 2 bronze daggers (figs. 57 and 58), and a bronze pin (fig. 59). One of the daggers has a tang, with a rivet; the lower part of the handle is formed by a bronze ferrule, fastened on to the blade by two rivets. A similar dagger was in the Arreton Down hoard (fig. 103), but the blades of the two daggers from Snowhill are of a little older type than that from Arreton Down.^a

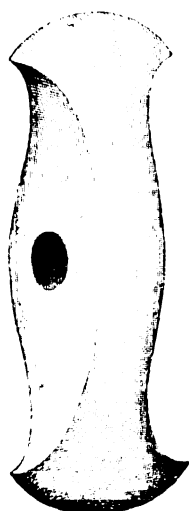


Fig. 60.
Stone axe-head,
Hove, Sussex. ($\frac{1}{2}$.)



Fig. 61.
Whet-stone,
Hove, Sussex. ($\frac{1}{2}$.)

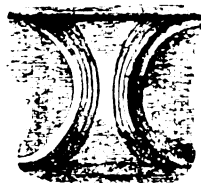


Fig. 62. Amber cup. Hove, Sussex. ($\frac{1}{2}$.)

34. *Sussex, Hove*, near Brighton. Barrow, oaken coffin, skeleton. Double-edged axe-hammer of stone (fig. 60), only one end is sharp; whetstone (fig. 61); bronze dagger (second period type); amber cup (fig. 62).^b

35. *Wiltshire*, parish of *Aldbourn*. Barrow, 68 feet in diameter and still 7 feet high. The platform on which it stands is 23 feet wide, and the ditch 8 feet wide and $2\frac{1}{2}$ feet deep. At the centre of the barrow, a grave (N.W. by W.—S.E. by E.), being 6 feet long, 3 feet wide, and 2 feet deep, sunk into the chalk rock. At the north-west end, and 1 foot above the bottom, was a bronze dagger (fig. 63), and at the middle and on the bottom were the remains of a skeleton; placed with the bones was an arrow-point of flint. Also in the grave were some

^a *Archaeologia*, lii. 70.

^b *Archaeological Journal*, xiii. 184. xv. 90; *Archaeologia*, xliii. 409; Evans, *Stone*², 186, fig. 119; *Idem*, *Bronze*, 243, 453.

disturbed bones not belonging to the skeleton just mentioned. "This, it is probable, was a secondary interment, during the course of which the previous occupant of the grave, with whose body the bronze dagger may have been associated, had been displaced." ^a

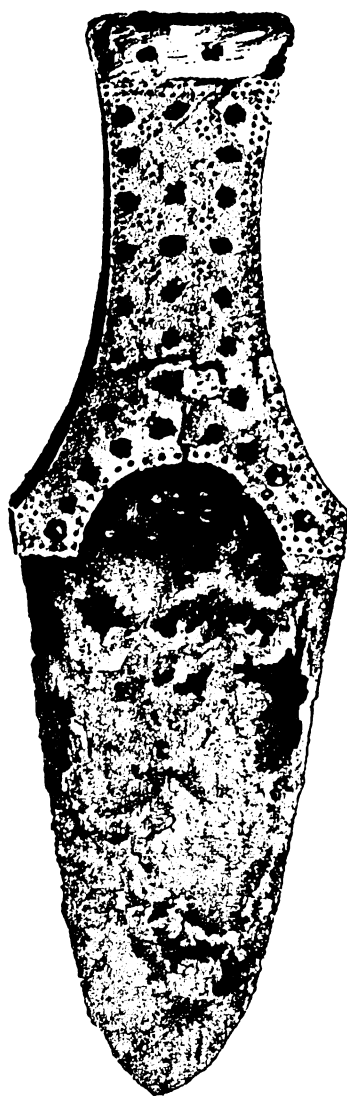


Fig. 64. Bronze Dagger, Brimilston, Wilts. (3.)

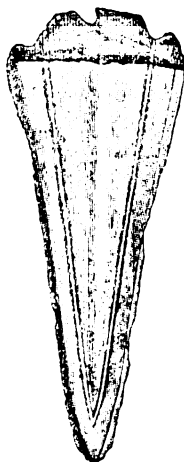


Fig. 63. Bronze dagger, Aldbourne, Wilts. (3.)



Fig. 65. Bronze dagger, Homington, Wilts. (4.)

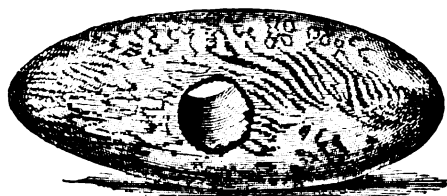


Fig. 66. Stone hammer, Normanton, Wilts. (4.)

36. Wiltshire, *Brimilston*. Barrow. Dagger of the thin, broad-bladed variety (fig. 64). The handle is of wood, held together with thirty rivets of

^a *Archaeologia*, lii. 48.

bronze, and strengthened at the end by an oblong bone pommel fastened with two pegs. It is decorated by dots incised in the surface of the wood, forming a border of double lines and circles between the heads of the rivets.*

37. Wiltshire, *Homington*, near Salisbury. Barrow (?). "Labourers employed in digging out ground for a cottage" found a skeleton, lying (N. to S.) "about 13 or 14 inches below the surface." Bronze dagger (fig. 65); "urn." The blade of the dagger is, according to Thurnam, "on one side remarkable for its brilliant lustre, like that of a burnished silver mirror." Evans says: "One side is still highly polished, with an almost mirror-like lustre."†

38. Wiltshire, *Normanton* (1808). On the floor of Bush Barrow, a skeleton (N. to S.) Stone hammer (fig. 66); flanged bronze axe (fig. 67); large dagger (fig. 68), and a "spear-head" (probably a dagger), 13 inches long, both of bronze. "About 18 inches south of the head were several bronze rivets, intermixed with wood and thin pieces of bronze, which covered a space of 12 inches or more, and were regarded as the remains of a shield. On the breast was a large lozenge-shaped plate of gold, 7 inches by 6 inches, ornamented with zigzag and other patterns, and near it were some other gold ornaments and some bone rings. The stone hammer lay on the right side and had a wooden handle, which was fixed in the perforation, and "encircled by a neat ornament of brass, part of which still adheres to the stone." The bronze axe, placed near the shoulders, "has side-flanges, and the centre is slightly thickened, there being a sharp transverse line on both sides from which the bevelled surfaces slope, corresponding to the stop in the palstave type of celt." It "owes its great preservation to having been inserted in a handle of wood." The dagger lay with the "spear-head" near the right arm; the handle of the dagger was marvellously inlaid with thousands of exceedingly small gold pins. It was accompanied by a nearly square plate of thin gold, with a projecting flat tongue or hook, which was thought to have decorated the sheath of the dagger.‡

39. Wiltshire, *Overton Hill*, near Kennet. Barrow. In a cist hollowed in

* Hoare, *Ancient Wiltshire*, i. 185, pl. xxiii. Most of the burials from the Bronze Age discovered in Wiltshire are described by Sir Richard Colt Hoare in his *Ancient Wiltshire*. The work not existing in my library, nor, as far as I know, in any other Swedish library, I could not use it for this paper. *Archaeologia*, xliii. 458, pl. xxxiv. fig. 2; Evans, *Bronze*, 230.

† *Proceedings of the Society of Antiquaries of London*, iv. 329; *Horæ Ferales*, pl. vii. fig. 21; *Archaeologia*, xliii. 452, pl. xxxiii. fig. 1; Evans, *Bronze*, 237.

‡ Hoare, *Ancient Wiltshire*, i. 202, pl. xxvi.; *Archaeologia*, xliii. 444, and pl. xxxv. fig. 1; Evans, *Bronze*, 51, 232, 352.

the chalk, 10 feet deep: a contracted skeleton, buried probably in the hollow trunk of an elm tree; small axe with slight flanges; broad dagger; and an awl (handle of bone), all of bronze.*

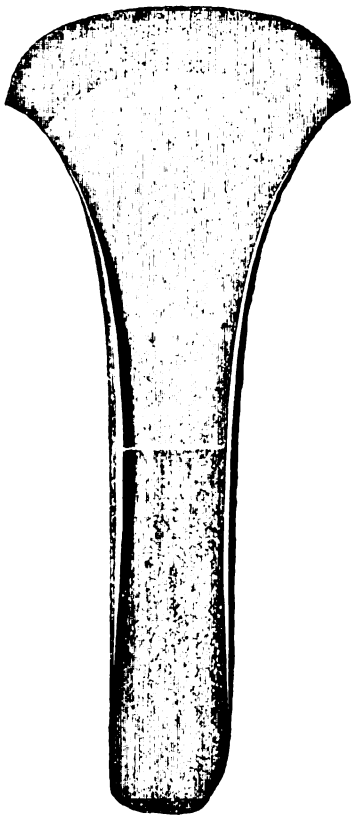


Fig. 67. Flanged celt, Normanton, Wilts. ($\frac{3}{4}$.)



Fig. 68. Bronze dagger, Normanton, Wilts. ($\frac{1}{2}$.)

* Hoare, *Ancient Wiltshire*, ii. 90; *Crania Britannica*, 11; Evans, *Bronze*, 51.

40. Wiltshire, *Rolston Field*. Barrow. Contracted skeleton. Near the head: small perforated black stone hammer.^a

41. Wiltshire, near *Wilsford*. Barrow. Skeleton; perforated stone hammer^b; whetstone; some objects of bone; bronze axe with small flanges; and an object of twisted bronze. This has a tang pierced with four rivet-holes, for fixing in a handle; beyond the handle project two twisted horns, which seem to have nearly met, so as to form a somewhat heart-shaped ring; in the centre, opposite the tang, is a long slot with a chain of three circular rings; the whole covers a space of about $6\frac{1}{2}$ inches by $4\frac{1}{2}$ inches.^c

42. Wiltshire, *Winterbourn Stoke*. In the King Barrow, in a hollowed trunk of an elm tree: skeleton; two bronze daggers; bronze awl, handle of bone

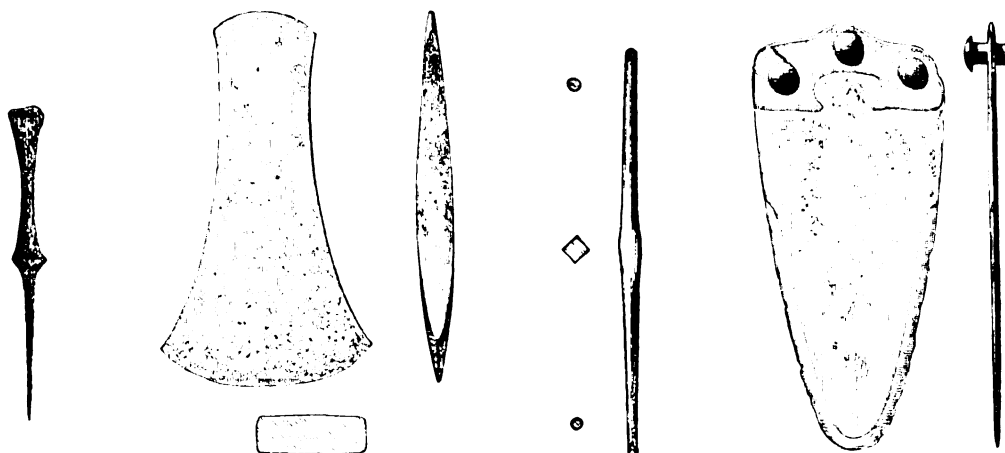


Fig. 69. Bronze awl, Winterbourn, Wilts. ($\frac{1}{2}$).^c

Fig. 70. Bronze celt, Butterwick, Yorks. ($\frac{1}{2}$).^c

Fig. 71. Bronze awl, Butterwick, Yorks. ($\frac{1}{2}$).^c

Fig. 72. Bronze dagger, Butterwick, Yorks. ($\frac{1}{2}$).^c

(fig. 69); and urn of burnt clay. One of the daggers (with traces of a wooden sheath) lay near the breast, the other was at the thigh.^d

43. Yorkshire, *Butterwick*. Barrow. Skeleton; flint knife; flat bronze axe (fig. 70); bronze dagger (broad flat blade), three rivets; handle of horn; wooden sheath (fig. 72); bronze drill (fig. 71); six round buttons, V-bored (five of jet and one of sandstone). The axe contains 87·97 per cent. of copper and 10·74 per cent. of tin.^e

^a Hoare, *South Wilts*, 174; Evans, *Stone*², 186.

^b *Archaeologia*, xliii. 411.

^c Hoare, *Ancient Wiltshire*, i. 209, pl. xxix.; *Archaeologia*, xliii. 411, fig. 97; Evans, *Stone*², 213; Idem, *Bronze*, 51 and 405.

^d Hoare, *Ancient Wiltshire*, i. 122, pl. xv.; Evans, *Bronze*, 190 and 241.

^e *Journal of the Anthropological Institute*, xxxvi. 24; Evans, *Bronze*, 41; *British Barrows*, 186.

44. Yorkshire, *Cawthorn*. Barrow? Extended skeleton; bronze dagger with a crescent-shaped mark showing the form of the handle.^a

45. Yorkshire, *Garrowby Wold*. Barrow. Contracted skeleton; small bronze dagger (broad, flat blade, three strong rivets; handle of horn, pommel of bone).^b

46. Yorkshire, *Garton Slack*. Barrow. Contracted skeleton; bronze dagger (broad, flat blade; handle of horn, 42 rivets in four rows; pommel of bone); three semicircular rings of bronze for the neck (?); one of them broad, the others smaller.^c

47. Yorkshire, *Towthorpe*. Beneath the centre of a barrow, a grave cut in the chalk, $3\frac{1}{2}$ feet deep. On the floor of this grave, a male skeleton, extended, with the head to the N.W.; the left arm was bent over the body, and the right arm was doubled, with the hand at the shoulder. "There was a quantity of fine carbonaceous matter under the skeleton, especially about the feet" (remains of a wooden coffin?) At the left humerus was a dagger-blade of whitish-coloured bronze, with four rivets. On the left side of the head was a perforated stone hammer; the handle, 18 inches long, and probably of ash, had extended to the side of the dagger. To the left of the head lay a rounded spear-head of flint; one side is flat. "A small mound had been first raised over the grave, and afterwards, probably leisurely, the monument had been raised to its final limits. In the material over the grave were some splinters of flint, two saws, a rough spear-head, and a fine spoon-shaped scraper of black flint." "At 22 feet E.S.E. of the centre, 3 feet from the base of the mound, and 6 feet from its surface, were a few calcined bones of a child in the midst of decayed wood. As there was no trace of an urn, probably these remains had been buried in a receptacle of wood"; a small splinter of flint accompanied them. "It was clear that this interment was not intrusive, but had been made during the erection of the barrow, as the numerous strata of ochry-coloured soil, alternating with clay and laminæ of dark matter, which formed the mound throughout, from base to apex, had not been cut through."^d

48. Yorkshire, *Towthorpe*. Barrow. Contracted skeleton. At the right side of the hip: a bronze dagger.^e

^a Bateman, *Ten Years' Diggings*, 206; Evans, *Bronze*, 227.

^b Mortimer, *l.c.* 145.

^c *Archæologia*, xliii. 462, pl. xxxiv. fig. 3; Evans, *Bronze*, 230; Mortimer, *l.c.* 230.

^d Mortimer, *l.c.* 4, 5.

^e Mortimer, *l.c.* 7.

Scotland.



Fig. 73. Bronze dagger,
Blackwaterfoot, Arran.
(4.)

49. *Argyleshire, Cleigh, Loch Nell.* Cairn, stone cist. Dagger-blade of bronze; three rivets; the shape of the end of the handle is indicated upon the blade by a line of small indentations made with a pointed punch (fig. 74).^a

50. *Bute, Isle of Arran, Blackwaterfoot.* Cairn, cist of slabs ($4\frac{1}{4}$ feet by $2\frac{1}{2}$ feet, and $2\frac{1}{2}$ feet in depth): no bones; dagger-blade of bronze (fig. 73) with gold mounting of the hilt.^b

51. *Haddingtonshire, Sketraw, near Dunbar (1836).* Cairn, cist of slabs: Skeleton; bronze dagger (broad, flat blade), with gold mounting of the hilt.^c

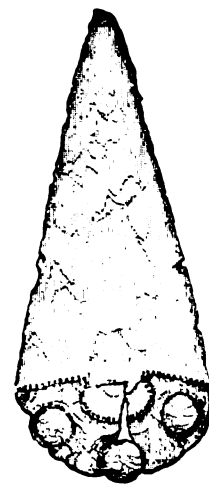


Fig. 74.
Bronze dagger, Cleigh,
Argyleshire. (3.)

B. Unburnt bodies, no barrows.

England and Wales.

52. *Kent, Aylesford, near Maidstone.* Large gravel pit known as "Parish field." No barrow. At the depth of 15 feet: skeleton; flat bronze axe; two bronze daggers (broad blades, rivets).^d

C. Burnt bodies.

England and Wales.

53. *Cornwall, Angrowse, in the parish of Mullion.* In the western side of a cairn a grave was discovered, 4 feet by 2 feet, cut in the hard natural soil to a

^a *Proceedings of the Society of Antiquaries of Scotland*, x. 84, 459; Evans, *Bronze*, 239.

^b *Proceedings of the Society of Antiquaries of Scotland*, xxxvi. 120.

^c *Proceedings of the Society of Antiquaries of Scotland*, xxvii. 7, fig. 1.

^d *Proceedings of the Society of Antiquaries of London*, 2nd S. xvii. 376.

depth of about 2 feet, and covered with flat stones. In the grave: fragments of an urn; burnt bones; bronze dagger ($6\frac{3}{4}$ inches in length), with three rivets; and a fractured globular specimen of iron pyrites for obtaining fire (=fig. 5).^a

54. *Devonshire, Broad Down*, Farway, near Honiton.^b Barrow. Upon a layer of burnt bones: a cup, probably of Kimmeridge shale (fig. 52).^c

55. *Devonshire, Broad Down*. Another barrow. On a deposit of burnt bones: a bronze dagger, which had been attached to its haft by rivets. At a distance of about 3 feet was a drinking cup of shale, "of almost similar form and size to that previously found" (=fig. 52).^d

56. *Wiltshire, Hinton Down*. Barrow. At the centre, in an oval grave (N.W. to S.E.), $3\frac{1}{3}$ feet long, 2 feet wide, and 1 foot deep, were the burnt bones of an adult, and a broad bronze dagger, which had apparently been placed there in a wooden sheath (not exposed to the fire). All round the grave on the original surface was a quantity of charcoal, the remains of large branches of trees. Two feet beneath the surface of the barrow a secondary grave was discovered (skeleton, iron spear-head).^e

57. *Wiltshire, near Wilsford*. Barrow. In a cist, 2 feet deep, a pile of burnt bones; small flanged bronze axe, pin and ring of bone.^f

58. *Wiltshire, Winterbourn Stoke*. Barrow. In a wooden cist: burnt bones; two bronze daggers (one of them fig. 75); tweezers; ivory pin; "two small pieces of ivory with bronze rivets, which were supposed to have appertained to the tips of a bow; they may more probably have formed part of the hilt of the dagger."^g

Scotland.

59. *Aberdeenshire, Crichtie*, near Kintore. A series of interments was found within a circular space (fig. 76) cut off from the surrounding area by a trench (A B), which was not carried completely round the included area, but was interrupted at

^a W. C. Borlase, *Naenia Cornubiae*, 234; Evans, *Stone*², 314.

^b For another barrow on Broad Down, see No. 22.

^c *Archaeological Journal*, xxv. 290; *Transactions of the Prehistoric Congress, Norwich and London*, 1869, p. 363; *Transactions of the Devonshire Association*, ii. 619, xii. 124; Evans, *Stone*², 445.

^d *Transactions of the Devonshire Association*, iv. 302, pl. iv.; Evans, *Stone*², 445.

^e *Archaeologia*, lii. 57.

^f Evans, *Bronze*, 51.

^g Evans, *Bronze*, 241.

two points (c c) by accesses on the unexcavated level of the north and south sides. The trench was 20 feet wide and 6 feet deep, and the accesses 9 feet wide. On the circumference of the included area, which was 55 feet in diameter, there had been a circle of six standing stones, with a seventh in the centre. Under the central stone was found a cairn of stones, 15 feet in diameter and about 5 feet deep. Its base was formed of slabs covering a cist, about 4 feet by 2 feet, which contained the remains of an unburnt body, and (it is also said) some calcined bones, but nothing else was found in it. Near one of the stones of the circle (No. 2) an inverted urn was found set in a small pit excavated in the subsoil, and

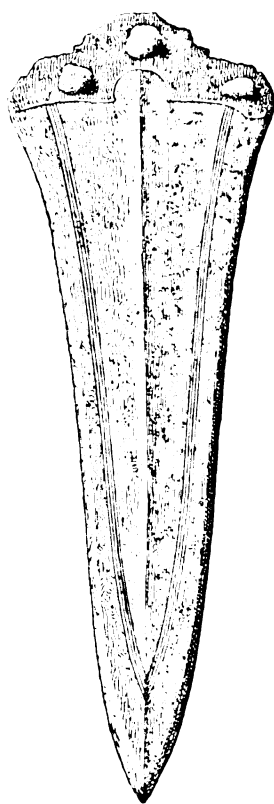


Fig. 75. Bronze dagger, Winterbourn, Wilts. ($\frac{1}{2}$.)

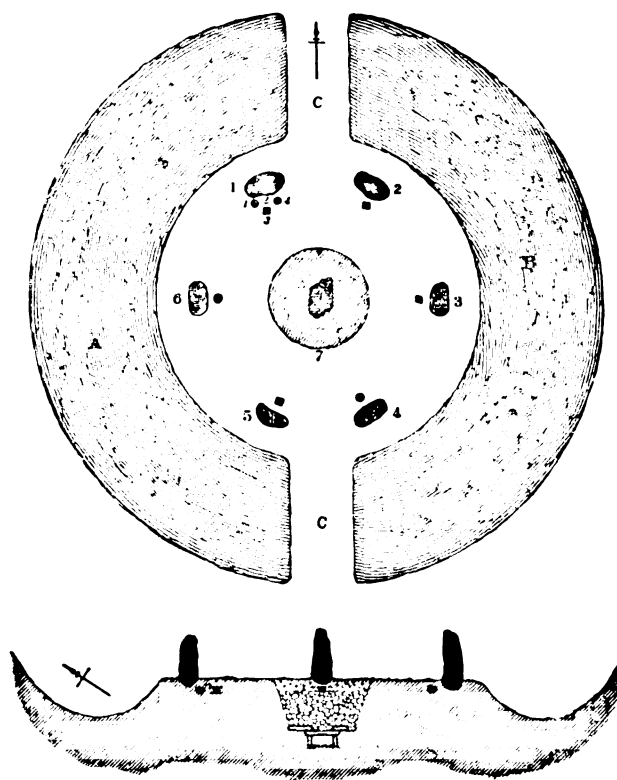


Fig. 76. Plan and section of barrow, Crichtie, Aberdeenshire.

covering a deposit of calcined bones, "partly human and partly of some animal." At the base of another stone (No. 1) there were found two deposits of calcined bones, and between them a perforated axe-hammer of stone (fig. 77). Several other deposits of burnt bones were found at different parts of the area, chiefly in the vicinity of the bases of the pillar-stones. One of these deposits was enclosed

in a small cist, others were merely deposited in the earth, but one was contained within an urn (fig. 78).^a

60. *Forfarshire, The Hill of West Mains of Auchterhouse*, near Dundee. At the centre of a cairn: a cist formed of slabs, 2 feet by 2 feet, and 2 feet deep. The covering slabs jointed with clay. In the cist lay two heaps of burnt bones and a triangular bronze dagger (handle of horn, bronze rivets).^b

61. *Oban*. No barrow mentioned. About 19 inches under the surface two urns were first found. Subsequently a very much larger urn (fig. 79) was found

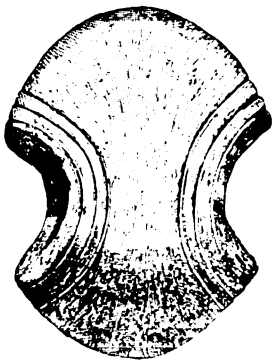


Fig. 77. Stone axe-head, Crichtie. ($\frac{1}{2}$.)

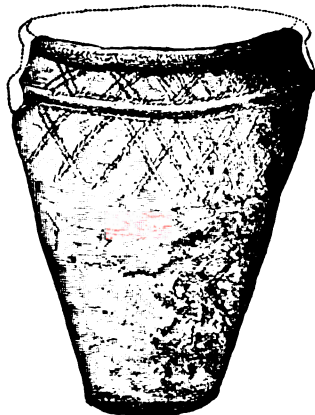


Fig. 78. Cinerary urn, Crichtie. (H. $9\frac{1}{2}$ in.)

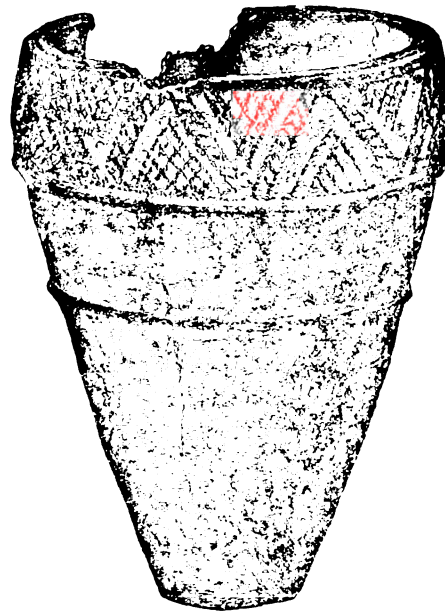


Fig. 79. Cinerary urn, Oban, Scotland. (H. $20\frac{1}{2}$ in.)

at a depth of 21 inches under the surface, in very black soil, as if largely mixed with charcoal and ashes. The urn stood mouth uppermost, with its bottom resting on a ledge of rock. The contents of all the three urns were most carefully examined, but nothing in the shape of either implement or ornament was found among the cremated bones. Close beside the large urn, but not within it, lay a perforated axe-hammer of stone.^c

^a *Proceedings of the Society of Antiquaries of Scotland*, xxxv. 219; Anderson, *l.c.* 104.

^b *Proceedings of the Society of Antiquaries of Scotland*, xxxii. 205.

^c *Proceedings of the Society of Antiquaries of Scotland*, xxxii. 58.

II.—Hoard.

England and Wales.

62. *Cornwall, Harlyn*, near Padstow. Hoard or grave. At a depth of about 6 feet from the surface: bronze axe, flat; another bronze article (thrown away), "like a bit of a buckle"; two "diadems" (lunettes) of gold (=fig. 51).^a

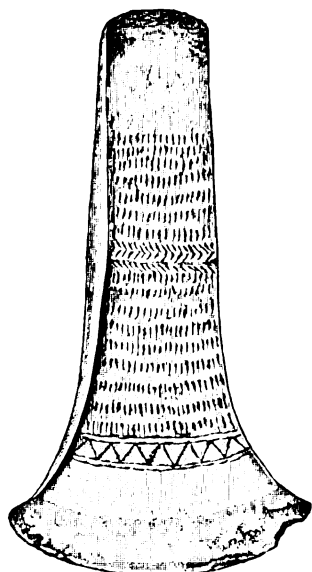


Fig. 80. Ornamented celt, Willerby, Yorks. ($\frac{1}{2}$.)

63. *Yorkshire*, parish of Willerby, *Wold Farm*. Barrow (see No. 19). Four flat bronze axes, with very rudimentary flanges (fig. 80), found 8 feet east of the centre, and placed close together on their edges, 6 inches above the original surface. They still retain upon their surface a polish like glass. No burial. Although "there were no signs of the barrow having ever being disturbed at the place," this hoard must have been deposited after the erection of the mound, because the axes are from a later period of the Bronze Age than the central grave.^b

Scotland.

64. *Ayrshire*, "*The Maidens*," near Culgean Castle. A hoard of five flat axes, "made of yellow bronze"; a penannular ring or armlet of bronze.^c

65. *Banffshire*, *Colleopard*, near Banff: five flat and two flanged axes, three of them are marked all over their flat sides with indentations from the pin end of the hammer.^d

66. *Banffshire*, on the *Hill of Fortrie of Balnoon*. A hoard of seven bronze axes, flat. Only one of them is now known to exist; it is of the same form as fig. 39, and presents a similar coating of tin on the surface.^e

67. *Bute*, *Kingarth* (1862). Three broad heavy halberd-blades "of reddish bronze," round pointed, and with slightly-curved edges, each furnished with three rivets, and 10 to 13 inches in length, 3 inches in breadth.^f

68. *Elginshire*, *Sluie* (before 1861). Two bronze axes, flat (fig. 39); a large

^a *Archaeological Journal*, xxii. 277; Evans, *Bronze*, 42.

^b Greenwell, *Archaeologia*, lii. 2.

^c *Proceedings of the Society of Antiquaries of Scotland*, xvii. 433; Anderson, *l.c.* 167.

^d Anderson, *l.c.* 166.

^e Anderson, *l.c.* 167.

^f *Proceedings of the Society of Antiquaries of Scotland*, iv. 396; Evans, *Bronze*, 270; Anderson, *l.c.* 155.

heavy triangular blade of bronze ("halberd"), 11 inches in length, by $3\frac{1}{2}$ inches in greatest breadth, with four rivet-holes arranged round the margin of its semi-circular base. The surface of both axes present "a peculiar coating of metallic tin."^a

69. *Lanarkshire, Southside*, near Coulter. Two "diadems" (lunettes) of gold, found together (=fig. 51).^b

70. *Sutherland, Migdale*, on the estate of Skibo, in the parish of Criech. In blasting the top of a granite knoll situated on the moor, at the west end of Loch Migdale, a hoard was found consisting of: two flat axes, three pairs of plain solid rings or armlets, and a pair of broader ornamented armlets (fig. 46), and a portion of another, all of bronze (or copper); a necklace of about forty cylindrical beads of thin bronze; one (or probably two) ear pendants of bronze (=fig. 13); portions of four (or possibly five) conical hollow bosses of thin bronze; and six conical buttons of jet, V-bored, from the beginning of the second period.^c

71. *Wigtownshire, Tonderghie* (before 1795). A hoard of six bronze axes, flat. The type of these axes not being known, it is impossible to say if they dated from the first or the second period.^d

Ireland.

72. *Co. Galway, Kilbannon, Knocknague*. In a bog: three axes; dagger with broad tang (no rivets); and three awls, all of copper. Two axes are flat, with but slightly raised flanges (almost invisible), and expanding edge. One of the axes has been analysed (tin and antimony 0.79). "The metal of all the implements in this find is identical in colour and surface lustre, and there can be no doubt that it is of the same quality." From the end of the first or the beginning of the second period.^e

73. *Co. Galway, near Woodlawn*. Seven halberds, found points downwards, $2\frac{1}{2}$ feet under the surface of a shallow bog.^f

74. *Co. Kerry, Cullinagh*. Three copper axes, found (in 1868) when ploughing. The axes are flat, with expanding edge.^g

75. *Co. Kildare*. In the parish of Dunfierth, barony of Carbury, four

^a *Proceedings of the Society of Antiquaries of Scotland*, iv. 187; Anderson, *l.c.* 163; *Catalogue of the National Museum of Antiquities of Scotland* (1892), 127, 143.

^b Anderson, *l.c.* 222.

^c *Proceedings of the Society of Antiquaries of Scotland*, xxxv. 266.

^d Anderson, *l.c.* 167.

^e Wilde, *l.c.* 451, 485.

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^f Coffey, *Irish Copper Celts*, 276.

^g Coffey, *l.c.* 277.

lunettes of gold (=fig. 51) were found in hard gravel, apparently the remains of an ancient road through a boggy field. Near it were found a quantity of bones of large ruminants.^a

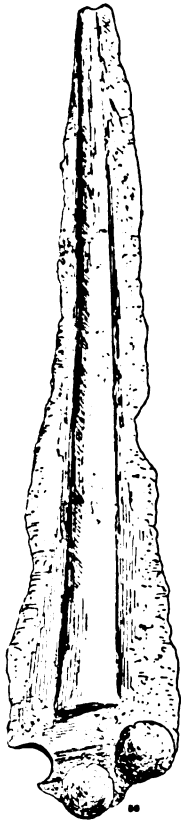


Fig. 81. Halberd-blade, Birr, King's Co. (4.)

76. *King's County, Birr* (in 1892). In the white clay under a bog: three axes, a fragment of a fourth, a dagger-blade (broad, with rivet-holes), and a halberd (fig. 81), all of red copper. The axes are flat, with expanding edge; one of them has slightly raised flanges.^b

PERIOD 3.

No stone weapons known from this period, or from the later parts of the Bronze Age.

The most characteristic types of bronze implements, weapons, and ornaments are:

Flanged axes ("celts"); the flanges are generally higher than in the preceding period, and the edge more expanding, sometimes almost semi-lunar (figs. 82, 83, and 102).

Axes with a stop-ridge on each side ("palstaves"), as figs. 84 to 88, 91 and 96. Many of them without loops; others with one or two loops.

No flat axes.

No socketed axes.

Dagger-blades without any tang; rivets (figs. 97 and 101); rarely with such bronze handle as fig. 89.

Tanged dagger-blades (figs. 90 and 100). The tangs long and narrow, with a rivet at the top. Rarely a ferrule of bronze surrounds the tang (fig. 103).

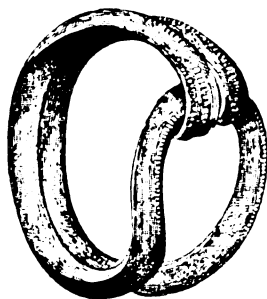


Fig. 94. Hand Cross, Sussex. (4.)

Socketed daggers (fig. 104).

No swords.

No socketed spear-heads (?).

Collars ("torques"), as figs. 92, 108, and 109.

Bracelets, as fig. 94.

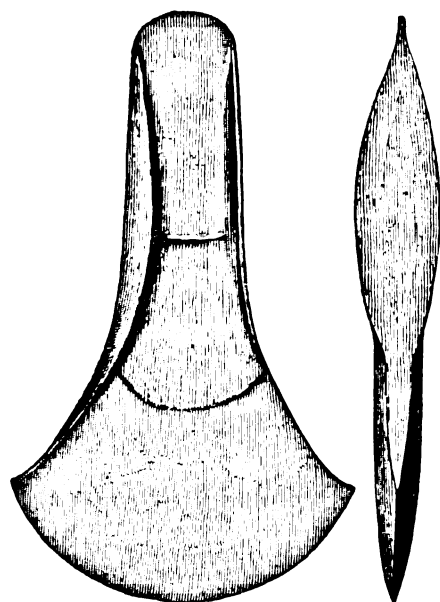
Gold collars ("torques"), as fig. 93.

Bracelets, as fig. 95.

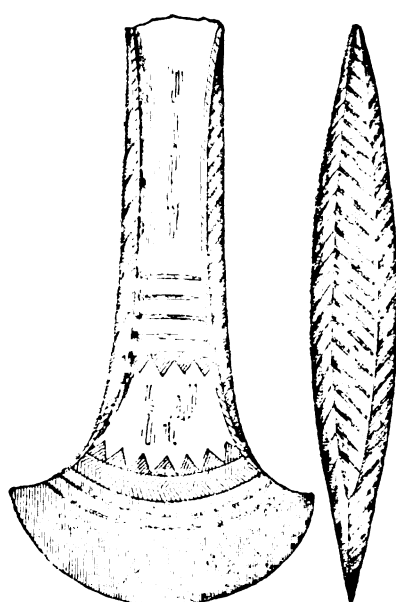
^a Wilde, *Catalogue*, "Gold," 18.

^b Coffey, *l.c.* 276.

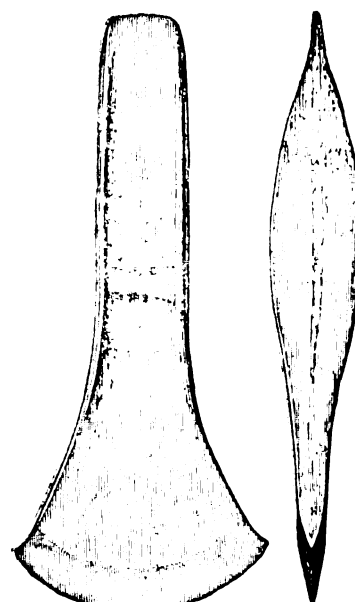
PERIOD III.



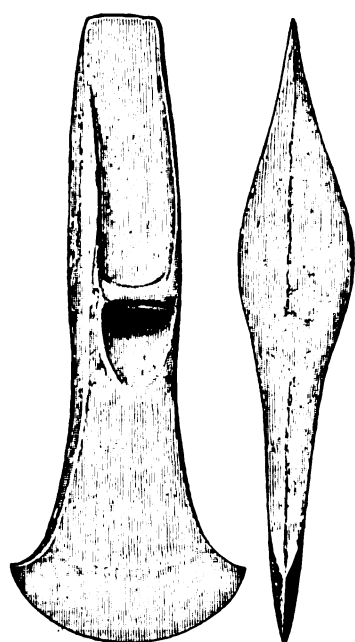
82. Wigton, Cumberland. (1.)



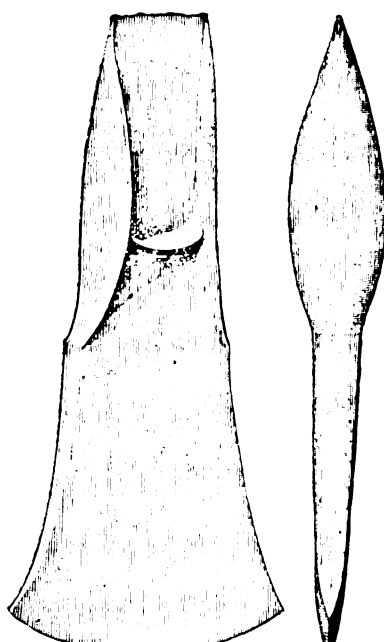
83. Lewes, Sussex. (1.)



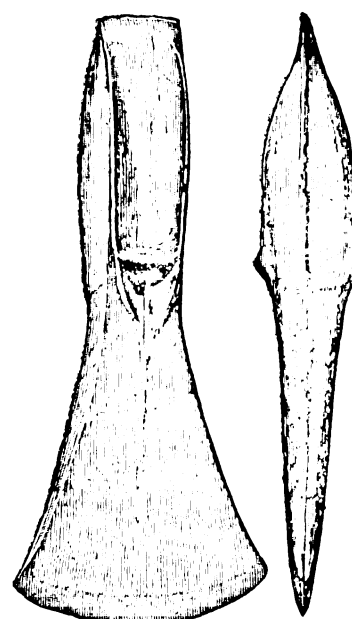
84. Dorchester, Oxon. (1.)



85. Colwick, Notts. (1.)



86. Bucknell, Herefordshire. (1.)

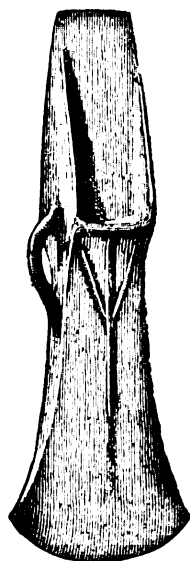


87. Harston, Cambs. (1.)

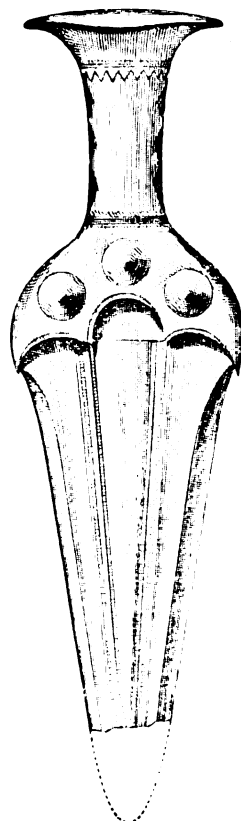
BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD III.

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PERIOD III.



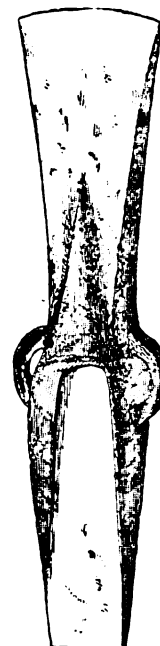
88. Oldbury Hill,
Herefordshire. ($\frac{1}{4}$.)



89. Ireland. ($\frac{2}{3}$.)



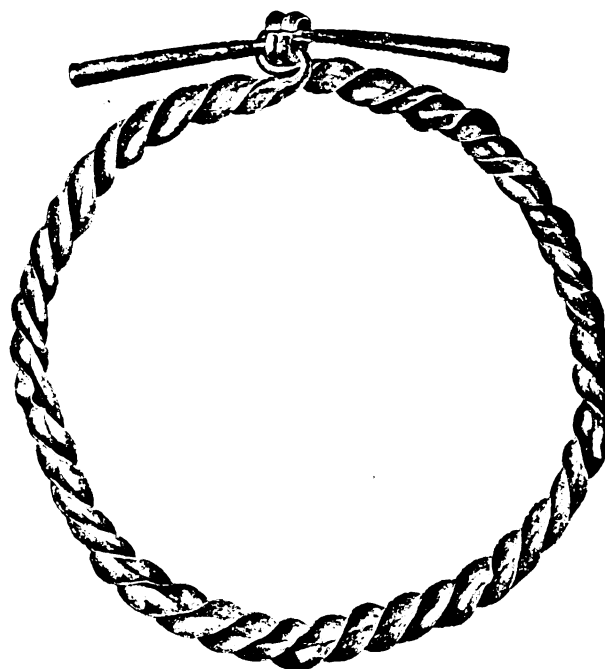
90. Stratford-le-Bow,
Essex. ($\frac{1}{3}$.)



91. Penvores,
Cornwall. ($\frac{1}{4}$.)



92. Quantock Hills, Som. ($\frac{1}{3}$.)



93. Boyton, Suffolk: gold. (Diam. 5 in.)

BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD III.

Published by the Society of Antiquaries of London, 1908.

Burials. In this period, as at the end of the second and in the fourth period, the bodies were probably burnt, but we hardly know of any tombs that can be with certainty assigned to the third period.

Hoard. Several have been discovered.

Hoard.

England and Wales.

77. *Cambridgeshire, Grunty Fen, near Stretham (1844).* In the peat: a gold

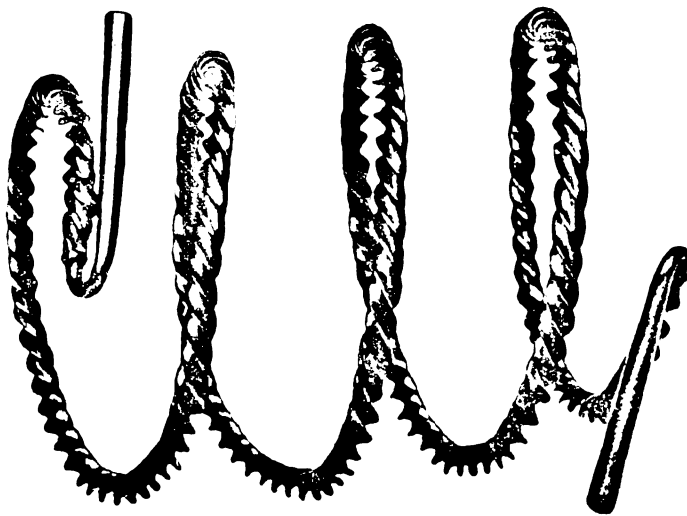


Fig. 95. Gold armlet, Grunty Fen, Cambs. ($\frac{2}{3}$.)



Fig. 96. Palstave, Grunty Fen, Cambs. ($\frac{2}{3}$.)

armilla (fig. 95) and three looped bronze axes with stop-ridges (fig. 96); the axes were found about 12 inches above the armilla (University Museum of Archæology and of Ethnology in Cambridge). Through the kindness of Baron A. von Hügel I have excellent photographs of these highly interesting objects. He tells me

that the armilla weighs 5 oz. 7 dwts. 6 grs., and its length (uncoiled) is 41 inches inclusive of the solid terminations.^a

78. *Devonshire, Lovehayne Farm, Colyton, near Southleigh (1763).* "The labourers destroyed a stone barrow in order to procure a supply of stones for the new turnpike road. Upon one side of the barrow they found about a hundred Roman (!) chisels for cutting stones, of a metal between a copper and brass colour, rough and unhardened." At present one only is known to be in existence, it is an axe with stop-ridges, no loop. "The rough seams of the sides, left by the divisions of the mould, have not been trimmed off."^b

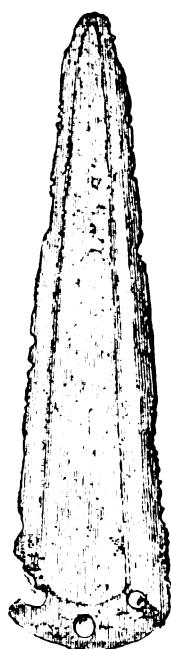


Fig. 97. Dagger-blade, Plymstock, Devon. ($\frac{3}{4}$.)

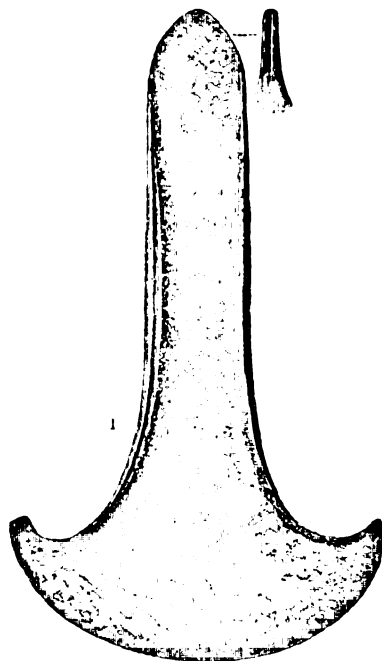


Fig. 98. Flanged celt, Plymstock, Devon. ($\frac{3}{4}$.)



Fig. 99. Chisel, Plymstock, Devon. ($\frac{3}{4}$.)



Fig. 100. Tanged dagger, Plymstock, Devon. ($\frac{3}{4}$.)

79. *Devonshire, Plymstock.* Beneath a flat stone at a depth of about 2 feet below the surface lay: sixteen flanged axes^c with expanding edges (fig. 98); a chisel (fig. 99); three daggers with rivets, no tang (fig. 97); a tanged dagger, no rivet (fig. 100).^d

^a Similar bracelets of gold were found at Slateford, near Edinburgh (1846); Anderson, *l.c.* 220; and in France, Costa de Beauregard, *Le torques d'or de Saint-Leu d'Esserent* (Caen, 1906).

^b *Transactions of the Prehistoric Congress, Norwich, 1868*, p. 396.

^c Here, as well as in the following pages, all the objects mentioned are of bronze, unless another material is indicated.

^d Evans, *Bronze*, 50, 165, 241, 259.

80. *Hampshire, Isle of Wight, Arreton Down* (1735). Four flanged axes, with expanding edge (fig. 102); two daggers with rivets (no tang, fig. 101); nine tanged daggers (one of them socketed, fig. 103); a socketed dagger (no tang, fig. 104). "A farmer who was widening a marle-pitt found these instruments

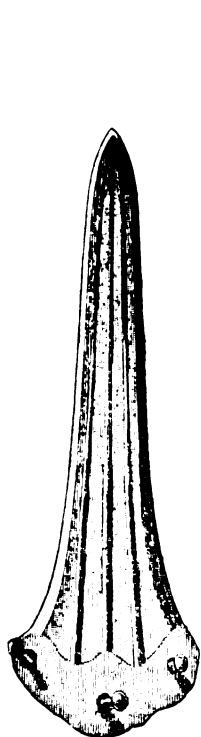


Fig. 101. Dagger-blade, Arreton Down, I.W. ($\frac{1}{4}$.)

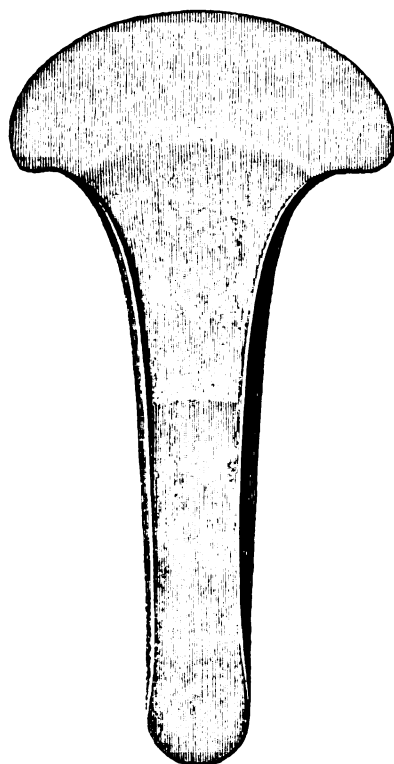


Fig. 102. Flanged celt, Arreton Down, I.W. ($\frac{1}{4}$.)



Fig. 103. Dagger, Arreton Down, I.W. ($\frac{1}{4}$.)



Fig. 104. Dagger, Arreton Down, I.W. ($\frac{1}{4}$.)

ranged in a regular order, the axes laid on the spear heads" (as the daggers were called). One of the axes was ornamented both on the face and sides. Some of the tanged daggers have a rivet at the end of the tang.^a

81. *Somerset, West Buckland*. Two-looped axe with stop-ridges; a torque (=fig. 92), and a bracelet (fig. 105).^b



Fig. 105. Portions of bracelet, West Buckland, Somerset. ($\frac{1}{4}$.)

^a *Archaeologia*, xxxvi. 326, pl. xxv.; Evans, *Bronze*, 49, 243, 257.

^b *Archaeological Journal*, xxxvii. 107; Evans, *Bronze*, 377, 386.

82. *Somerset, Edington Burtle*, near Glastonbury. In a turbary: four axes with stop-ridge; four sickles (figs. 106 and 107); a broad fluted penannular armlet; part of a light funicular torque (=fig. 108), part of a ribbon torque (=fig. 109), and four penannular rings, some of them apparently made from fragments of torques. One of the sickles had been left rough as it came from



Fig. 106. Sickle, Edington Burtle, Somerset. ($\frac{1}{4}$.)

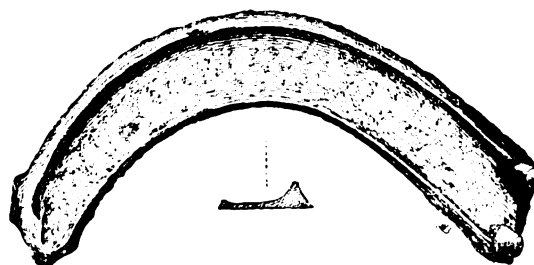


Fig. 107. Sickle, Edington Burtle, Somerset. ($\frac{1}{4}$.)



Fig. 108. Torque, Wedmore, Somerset. ($\frac{1}{2}$.)

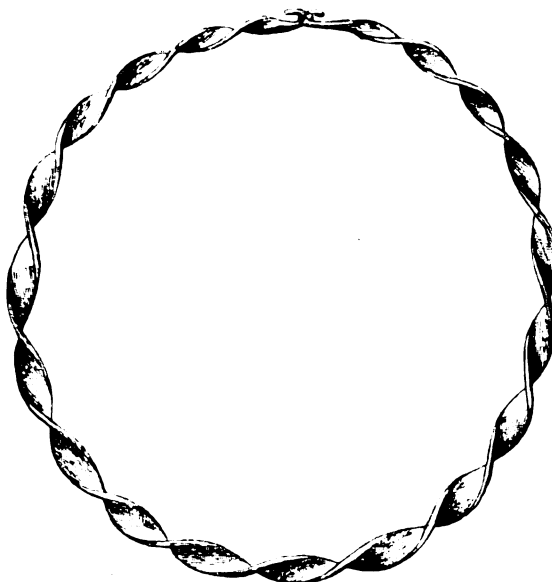


Fig. 109. Torque, Wedmore, Somerset. ($\frac{1}{2}$.)

the mould, into which the metal had been run through a channel near the point of the sickle (fig. 107). A projection still marks the place where the jet was broken off.^a

83. *Somerset*, near Heath House in the parish of *Wedmore*: two "celts," three torques (figs. 108 and 109), and perhaps a few amber beads.^b

^a Evans, *Bronze*, 197, 377, 385, 391.

^b *Archaeological Journal*, vi. 81; Evans, *Bronze*, 376.

84. Somerset, *Quantock Hills* (1794). Two torques (fig. 92), within each of which was placed a "celt," i.e. a looped axe with stop-ridges (=fig. 110).^a

85. *Sussex, Hollingbury Hill*, near Brighton (1825). "In a Roman encampment, one of the many earthworks on the summit of the downs": Axe with high flanges and stop-ridges nearly on the same level as the side flanges; a torque like fig. 108, but without hooks; four looped bracelets (=fig. 94); three spiral rings. The axe, which was broken in the middle, lay within the torque, which also was broken across the middle. At regular intervals round it lay the four bracelets. On each extremity of the torque was a spiral ring.^b

86. *Wales, Denbighshire, Rhosnesney*, near Wrexham. Three castings for flanged axes, and a shank of a fourth; six one-looped axes with stop-ridges, all from the same mould, another broken in two; a dagger-blade (no tang and no rivets); all of them rough as they came from the mould.^c



Fig. 110. Looped palstave, Quantock Hills, Somerset. ($\frac{1}{2}$.)

PERIOD IV.

The most characteristic types of bronze implements, weapons, and ornaments are:

Flanged axes are extremely rare.

Axes with stop-ridges ("palstaves"), degenerated varieties, as fig. 114.

Socketed axes ("socketed celts"), as fig. 116.

No flat axes.

Daggers of much more elongated form than in older times, as fig. 112.

Swords with similar or rapier-shaped blades, as fig. 111; rarely with bronze handles (fig. 117).

Leaf-shaped swords; no notches in the edges beneath the handle (fig. 122).

Scabbard-tips, as figs. 118 to 120.

^a *Archaeologia*, xiv. 94, pl. xxiii.; Evans, *Bronze*, 77, 377.

^b *Archaeologia*, xxix. 372; *Archaeological Journal*, v. 323; Evans, *Bronze*, 76, 378, 386, 390.

^c Evans, *Bronze*, 55, 90, 226.

Two-edged knives ("razors"), as figs. 123 and 124.

Socketed spear-heads, with loops at the side of the projecting socket or at the base of the blade (figs. 113 and 115).

Cylindrical ferrules for spears (fig. 121). Twisted collars ("torques") and armlets (fig. 128).

Burials. Burnt bodies, in barrows or cairns.

Burnt bodies in cemeteries (without barrows).

Hoard.

I. Burials.

England and Wales.

87. *Devonshire, Farway.* Barrow. Socketed axe, found in a bed of undisturbed charcoal, 5 feet deep, and only 18 inches outside the central kistvaen, in which was a burnt body.^a

88. *Gloucestershire, Nether Swell.* Barrow; secondary interment: Urn of clay, containing burnt bones of an adult and a tanged, oval bronze knife, quite plain.^b

89. *Wiltshire, Wilsford, near Stonehenge.* Barrow. In a grave with burnt bones (probably): a small spear-head, with two very small loops at the upper third of the socket; much contorted by the action of fire.^c

90. *East Lothian, Preston Tower.* A penannular armlet, found with burnt bones.^d

Scotland.

91. *Fifeshire, St. Andrew's,* where a large number of interments after cremation were discovered (no barrows mentioned). Two tanged, plain, oval knives, found each in an urn with a deposit of burnt bones.^e

^a *Archaeologia*, xliii. 447, fig. 152.

^b Greenwell, *British Barrows*, 446.

^c *Archaeologia*, xliii. 447, fig. 153.

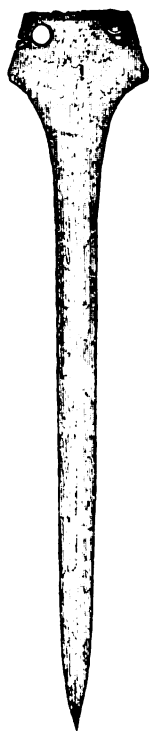
^d Evans, *Bronze*, 382.

^e Greenwell, *l.c.* 446, note.

PERIOD IV.



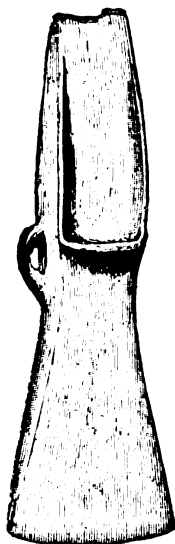
111. Lissane,
co. Derry.
($\frac{1}{2}$.)



112. Coveney, Cambs.
($\frac{1}{2}$.)



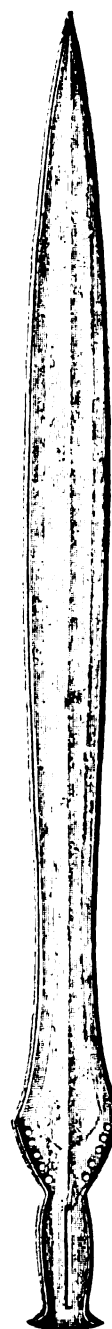
113. Nettleham,
Lincs. ($\frac{1}{2}$.)



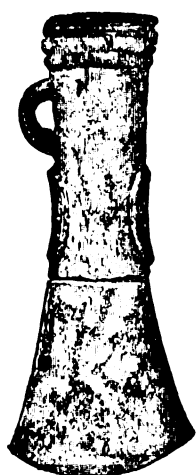
114. Stanton Harcourt, Oxon
($\frac{1}{2}$.)



115. Lakenheath,
Suffolk. ($\frac{1}{2}$.)



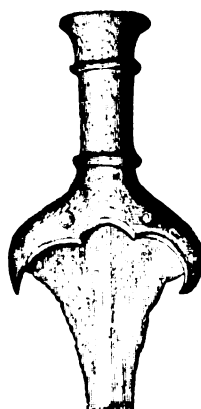
122. Barrow,
Suffolk.
($\frac{1}{2}$.)



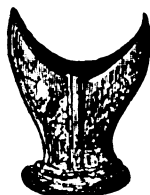
116. Nettleham, Lincs.
($\frac{1}{2}$.)



118. Wick Park,
Stogursey, Som.
($\frac{1}{2}$.)



117. Tipperary,
Ireland.
($\frac{1}{2}$.)



119. Pant-y-Maen,
Cardiganshire.
($\frac{1}{2}$.)



120. Guilsfield,
Montgomery-
shire. ($\frac{1}{2}$.)



121. Guilsfield.
($\frac{1}{2}$.)

BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD IV.

Published by the Society of Antiquaries of London, 1908.

92. Fifeshire, *Lawpark*, near St. Andrew's. Cremation cemetery (no barrows). About twenty urns "of the same type as those found at Magdalen Bridge." Among the burnt bones two small oval tanged bronze blades were found.^a

93. *Kinross-shire, Shanwell*, near Milnathort. The excavation of a gravelly knoll disclosed a considerable number of burials (no barrows) pertaining to a cemetery "of the same character as that at Magdalen Bridge." The deposits were burials after cremation, mostly unprotected by cists, but accompanied by urns of the same form and character as those found at Magdalen Bridge. Among the burnt bones of one of the deposits there was found a thin oval blade of a bronze knife, beautifully ornamented on both sides with an engraved pattern of lozenge-shaped chequers (fig. 123).^b

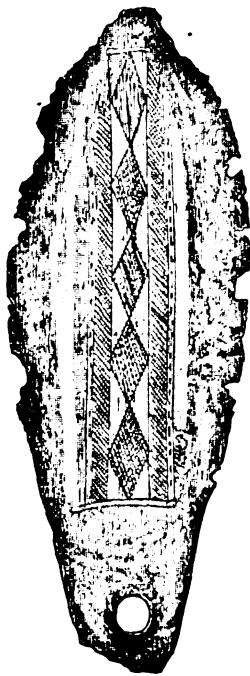


Fig. 123. Razor, Shanwell, Kinross. (†)

94. *Midlothian, Magdalen Bridge*, between Joppa and Musselburgh cemetery discovered in excavating a sand-pit (no barrows). The site was close to the shore of the Firth of Forth, and the surface level of the ground not more than 14 feet above high-water mark. Nine or ten urns containing burnt bones. In one of the urns, among the burnt bones, a thin bronze knife of the oval tanged form, the centre ornamented with a series of lozenge-shaped spaces alternately plain and filled with parallel lines.^c



Fig. 124. Razor, Balblair, Sutherland. (‡)

95. *Sutherlandshire, Balblair*, in the parish of Creich (about 1848). A crofter, removing stones from a cairn, discovered a large urn inverted over a deposit of burnt bones upon a flat stone. Amongst the bones lay an oval knife, ornamented (fig. 124); the edges are very thin and sharp.^d

^a Anderson, *l.c.* 36.

^b Anderson, *l.c.* 37.

^c Anderson, *l.c.* 28.

^d *Proceedings of the Society of Antiquaries of Scotland*, vii. 496; Anderson, *l.c.* 25; Evans, *Bronze*, 218.

Ireland.

96. *Co. Antrim, Killyless.* In an urn with burnt bones an oval bronze blade, with a central rib, was found; it has no tang, but there is a rivet-hole through the broad end of the rib.^a

II. *Hoards.**England and Wales.*

97. *Berkshire, Yattendon, near Newbury.* Hoard found in digging. A flat axe; a small axe with stop-ridges (without loop); two fragments of one-looped axes with stop-ridges; two socketed axes; three tanged chisels with side-stops (fig. 125); six socketed gouges; four fragments of sword-blades; a scabbard end (=fig. 120); nineteen spear-heads without side-loops; four spear-heads with side-loops (=figs. 113 and 115); five fragments of spear-heads; three tanged knives; two socketed knives, etc. The bronze objects all lay together "about 18 inches below the surface of the sod, in a mass of gravel that had been turned red, purple, and black by the action of fire, which had also split up many of the pebbles in the gravel." There was no sign of the bronzes having been enclosed in any box or vase, and the earth immediately around them was stained of a greenish colour. The spear-heads are, without exception, more or less injured. On what seems to be a socket broken off from a spear-head there is at the broken end a thick incrustation of rust of iron, with impressions on it apparently of other sockets of spear-heads.^b

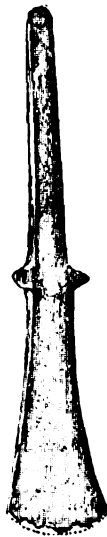


Fig. 125.
Chisel,
Yattendon,
Berks. (4)

98. *Cambridgeshire, Meldreth.* Two "palstaves"; twenty-five socketed axes; one small narrow-edged socketed chisel; one gouge; one flat crescent-like knife, with opening in middle; nine swords; three spear-heads; one cauldron ring; fifteen lumps of rough metal. Most of the objects were broken.^c

^a Evans, *Bronze*, 218.

^b *Proceedings of the Society of Antiquaries of London*, 2nd Series, vii. (1876-78), 480; Evans, *Bronze*, 169, 403, 466.

^c Evans, *Bronze*, 172, 214, 411, 424, 462, 466.

99. *Lincolnshire, Nettleham* (1860). Four axes with stop-ridges (one plain, without loops; three with a loop); three socketed axes, unusual forms (fig. 116); two spear-heads (one without loops or holes; one, fig. 113, with openings at the base of the blade, which are intermediate forms between loops and holes); and the cylindrical ferrule for a spear (fig. 121).^a

100. *Norfolk, Stibbard* (1806). About seventy small axes with stop-ridges; and ten spear-heads with loops at the base of the blade (fig. 126). They are in the state in which they left the moulds, having never been finished by hammering and grinding, though the core has been extracted from the spear-heads.^b



126. Spear-head, Stibbard, Norfolk. (1.)

101. *Northumberland, Wallington*. Eight axes with stop-ridges and a loop (the ribs very distinct); seven socketed axes; two rapiers; four spear-heads (small openings in the blade); a ferrule; three plain bracelets.^c

102. *Notts., near Nottingham*. Found (in 1860) during some building operations: an axe with stop-ridges and a loop; sixteen socketed axes; a dagger with broad tang (no rivets); six fragments of swords; four spear-heads; a cylindrical ferrule for spears (= fig. 121), etc.^d

103. *Somerset, Taunton*. Twelve palstaves; a socketed axe; a narrow hammer with square socket; a fragment of a spear-head, a double-edged razor (= fig. 124); two sickles; a funicular torque (= fig. 92); a pin with a large ring-shaped head (fig. 127); fragments of other pins; and several penannular rings of various sizes.^e

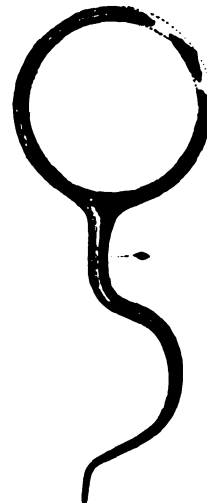


Fig. 127. Ring-headed pin, Taunton. (1.)

104. *Somerset, Wick Park*, in the parish of Stogursey. A hoard discovered together in stiff clay in the space of a foot cube, 2 feet below the surface, whilst draining a field: two "palstaves"; twenty-seven socketed

^a *Archaeological Journal*, xviii. 159; Evans, *Bronze*, 86, 92, 131, 314, 330, 339.

^b Evans, *Bronze*, 84, 328.

^c Evans, *Bronze*, 89, 333, 382, 465.

^d *Proceedings of the Society of Antiquaries of London*, 2nd Series, i. 332; Evans, *Bronze*, 93, 118, 211, 317, 339.

^e *Archaeological Journal*, xxxvii. 94. Evans, *Bronze*, 116, 178, 198, 218, 367, 389.

axes, "some of an oval, some of a square section"; thirty-nine fragments of socketed axes; two gouges; two "daggers or knives"; twenty-one fragments of leaf-shaped swords; end of sword-sabbard (fig. 118); twelve spear-heads with rivet-holes, and a few fragments; portion of a barbed spear-head; fifteen jets from the necks of moulds; a circular cake of bronze, and some fragments; a cake of copper, and eleven fragments. Several of the axes showed imperfections in casting.^a

105. *Sussex, Wilmington* (1861). In an urn of coarse pottery: thirteen looped axes with stop-ridges; seventeen socketed axes; two broken dagger or sword blades; a mould of bronze for socketed celts, with external loops on each half; and lumps of rough metal; "mostly broken or worn."^b

106. *Sussex, near Worthing* (1877). In an urn of coarse earthenware: twenty-nine looped axes with stop-ridges; twelve socketed axes; and lumps of rough metal.^c

107. *Wales, Montgomeryshire*. In a field near Guilsfield, known by the name of "The Camp" (1862). Axes with stop-ridges and a loop; socketed axes; two socketed gouges; fragments of swords; sixteen long chapes for sword-sheaths (fig. 120); seven spear-heads (one of them with two narrow openings in the blade); twelve ferrules for spears (fig. 121); at least one lump of metal. "The implements had a remarkably fine patina"; many of them were broken.^d

108. *Wales, Cardiganshire, Pant-y-maen, near Glancych*. Broken swords, spear-heads, ferrules (one of them, fig. 119), and some small rings.^e

Scotland.

109. *Aberdeenshire, Tarves*. A leaf-shaped sword with a large pommel (=fig. 191), but no notches in the edges; there is a recess on the hilt-plate for

^a *Proceedings of the Society of Antiquaries of London*, 2nd Series, v. (1870-1873), 427; Evans, *Bronze*, 120, 304, 450.

^b *Archaeological Journal*, xx. 192; Evans, *Bronze*, 87, 447, 468.

^c Evans, *Bronze*, 87, 423.

^d *Proceedings of the Society of Antiquaries of London*, 2nd Series, ii. 249; Evans, *Bronze*, 87, 114, 174, 285, 302, 315, 336, 339, 424.

^e *Archaeologia Cambrensis*, 3rd Series, x. 221; Evans, *Bronze*, 304.

the reception of the horn or bone of the hilt (three rivets). Two other sword-blades, a long scabbard end, two pins with large circular heads.^a

110. *Gogar*, near *Edinburgh* (1811). In a gravel pit were found: a leaf-shaped sword (no notches), with flat handle-plate, pierced by rivet-holes; and a scabbard-chape (=fig. 118).^b

111. *Forfarshire*, *Cauldhame*, near *Brechin* (1853). Four leaf-shaped swords, with flat handle-plates pierced with rivet-holes; a scabbard-chape (=fig. 118); and a spear-head, which is described as one of the largest examples hitherto found in Scotland.^c

112. *Morayshire*, *Auchtertyre*, near *Elgin* (1868). In ploughing a mossy field were found: one socketed axe with a loop; two spear-heads with holes for a rivet; two penannular rings with slightly expanded ends; fragments of four broken rings; and portions of a ring of metal of a greyish colour and friable, which on analysis yielded no copper, but only tin (78·7 per cent.) and lead (21·3 per cent.).^d

113. *Perthshire*, *Monadh-mor*, *Killin* (1868). In trenching a gravel hillock a hoard of bronze objects was discovered, all lying together, at a depth of about a foot beneath the surface; two socketed axes; a socketed gouge; a portion of a small leaf-shaped bronze sword, having no rivet-holes in the handle-plate, and no notches; a spear-head (the socket pierced by a rivet-hole; no other holes); a broad hollow ring; a penannular bracelet, with slightly expanded ends; nine plain small rings.^e

From the fourth or fifth period date some precious hoards of gold, viz.:

114. *Elginshire*, *The Law*, in the parish of *Urquhart* (1857). By the plough were turned up: several twisted armlets of gold, amounting by one account to "more than three dozen," and by another account to "about forty." They were all, so far as could be ascertained, similar in style and pattern, with the exception that some had simple hooks at the extremities, whilst in a few instances the hooks terminated in little knobs.^f

115. *Fifeshire*. At a place called *The Temple*, which is part of the village of

^a Evans, *Bronze*, 290, 372; *Horæ Ferales*, pl. ix. figs. 4. 12.

^b Anderson, *l.c.* 143.

^c Anderson, *l.c.* 144; Evans, *Bronze*, 304.

^d Anderson, *l.c.* 146.

^e Anderson, *l.c.* 149.

^f Anderson, *l.c.* 217.

Lower Largo, four twisted armlets of gold (fig. 128) were found, in 1848, on the top of a steep bank which slopes down to the sea.^a



Fig. 128. Gold armlet, Largo, Fife. (†.)

PERIOD V.

The most characteristic types of bronze implements, weapons, and ornaments are :

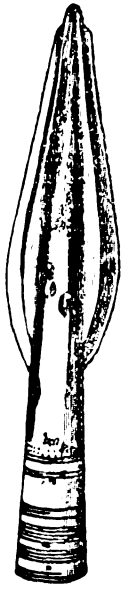
Winged axes ("palstaves," of a continental type), as fig. 188, without stop-ridges. The wings are placed near the top. Some axes of this type with the wings placed nearer the middle of the blade (fig. 139) date from the beginning of the fifth or from the end of the fourth period.

Socketed axes ("socketed celts") as figs. 140 and 141.

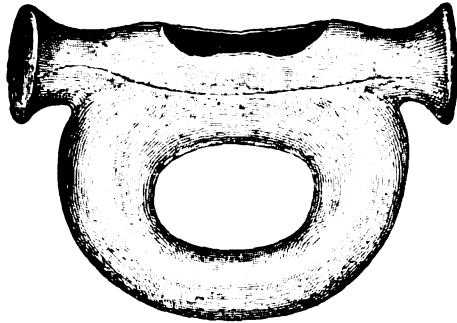
No flat axes.

^a Anderson, *l.c.* 214. As the name still suggests, the place seems to have been a temple in old times. The precious hoard belonged perhaps to that temple.

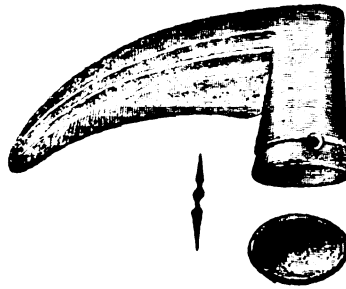
PERIOD V.



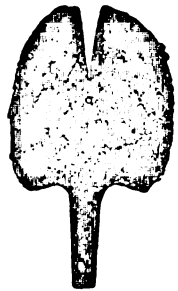
129. Thorndon, Suffolk. ($\frac{1}{2}$.)



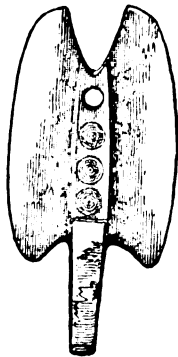
130 and 131. Ebbsfleet, Thanet. ($\frac{1}{2}$.)



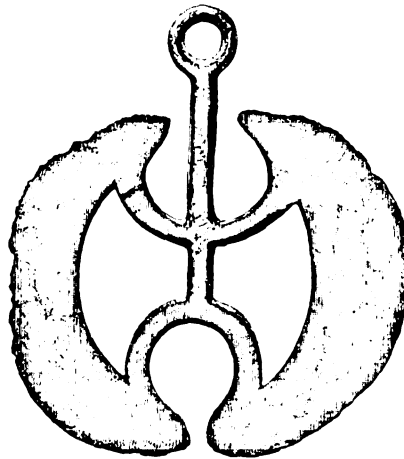
132. Garvagh, co. Derry. ($\frac{1}{2}$.)



133. Heathery Burn Cave, Durham. ($\frac{1}{2}$.)



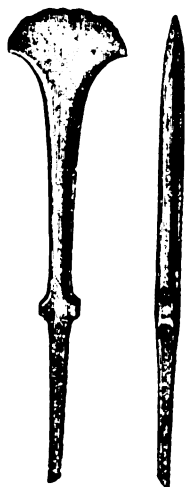
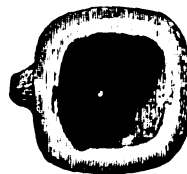
134. Ireland. ($\frac{1}{2}$.)



135. Kinleith, Edinburgh. ($\frac{1}{2}$.)



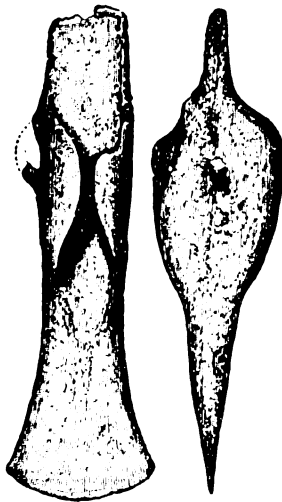
136. Whittingham, Northumberland. ($\frac{1}{2}$.)



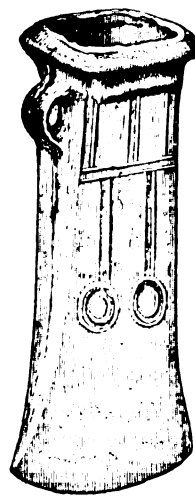
137. Scotland. ($\frac{1}{2}$.)



138. River Tay, Scotland. ($\frac{1}{2}$.)



139. Carlton Rode, Norfolk. ($\frac{1}{2}$.)



140. Thames, near Kingston, Surrey. ($\frac{1}{2}$.)

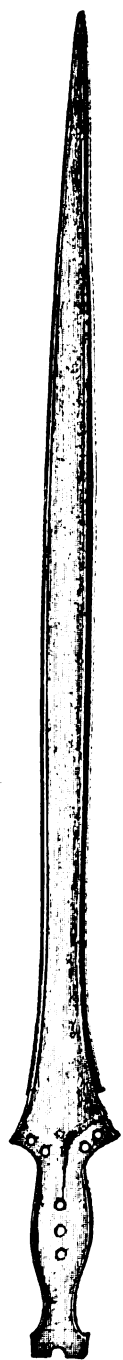


141. Barrington, Cambs. ($\frac{1}{2}$.)

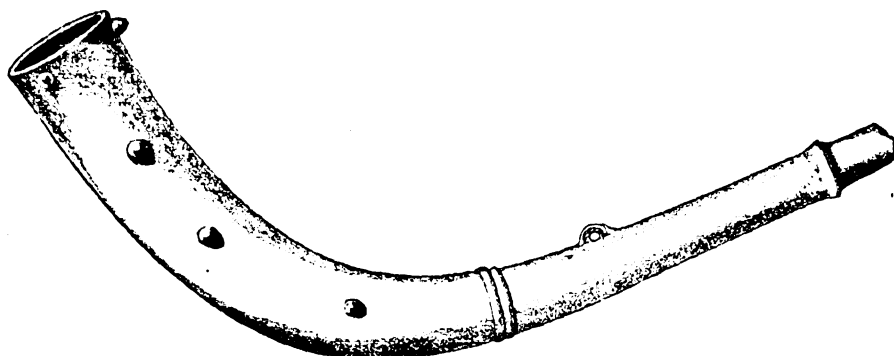
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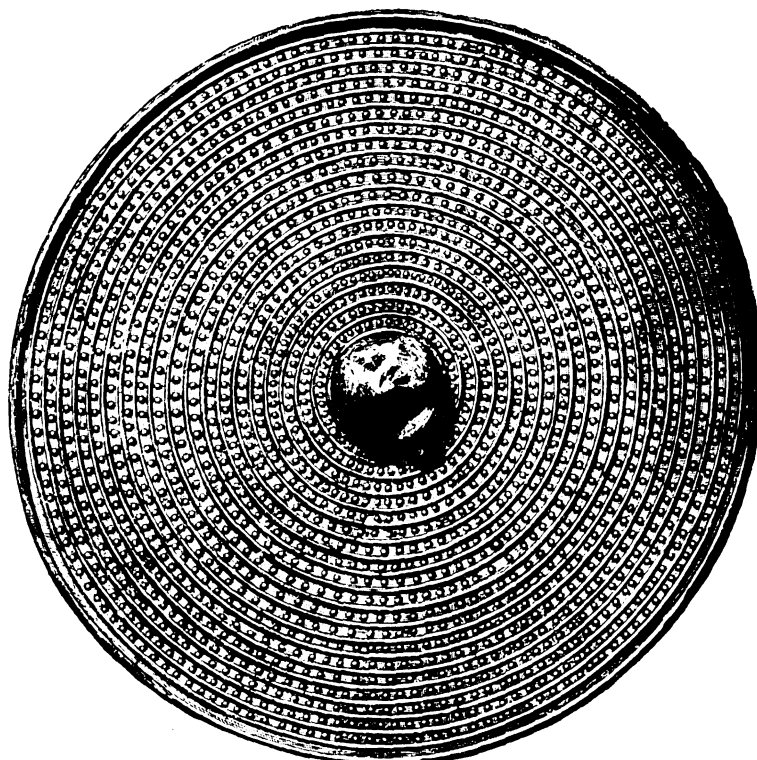
PERIOD V.



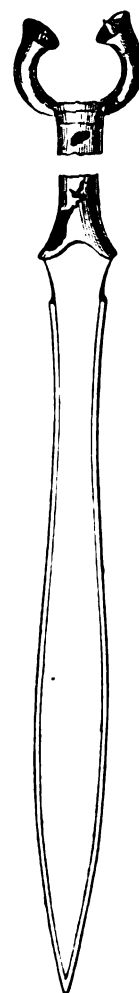
142. Newcastle, Northumberland. ($\frac{1}{4}$)



143. Dowris, King's Co. ($\frac{1}{4}$.)



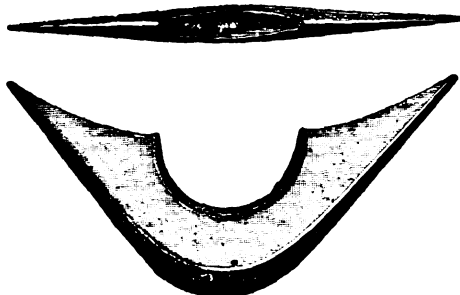
144. Yetholm, Roxburghshire. ($\frac{1}{4}$.)



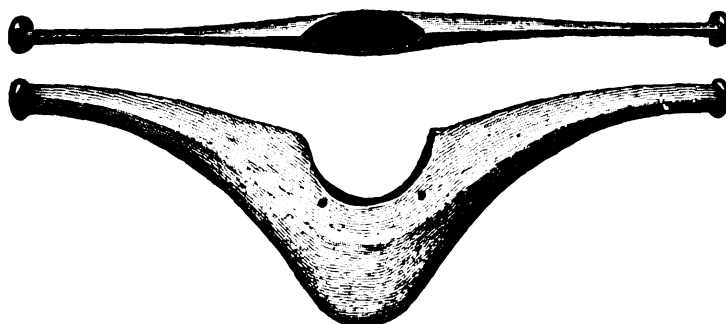
145. Whittingham, Northumberland. ($\frac{1}{4}$.)



146. Cloonmore, co. Tipperary. ($\frac{1}{4}$.)



147. Mildenhall, Suffolk. ($\frac{1}{2}$.)



148. Thames. ($\frac{1}{2}$.)

BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD V.

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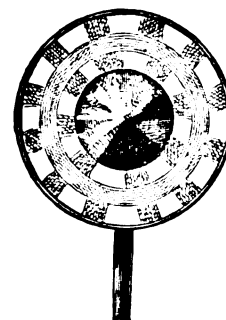
PERIOD V.



149. N. Ireland. ($\frac{1}{2}$.)



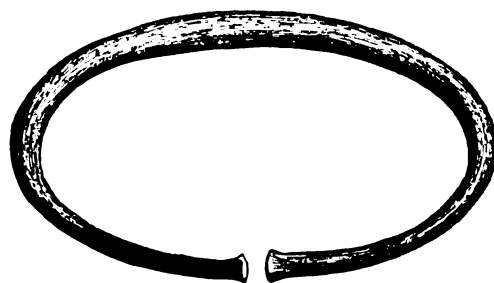
150-152. Ireland : gold. ($\frac{1}{4}$.)



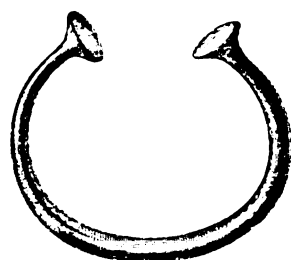
153. Ireland. ($\frac{1}{4}$.)



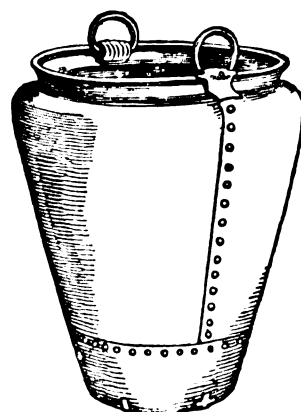
154.
Ireland.
($\frac{1}{2}$.)



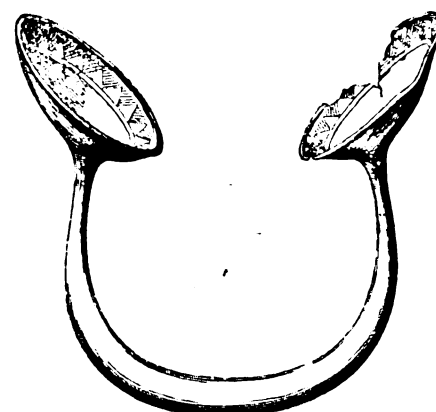
155. Scotland. ($\frac{1}{4}$.)



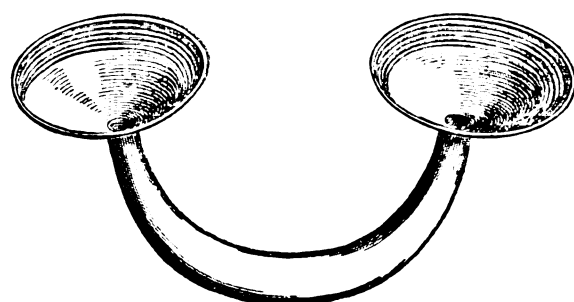
156. Newmarket-on-Fergus,
co. Clare : gold. ($\frac{1}{2}$.)



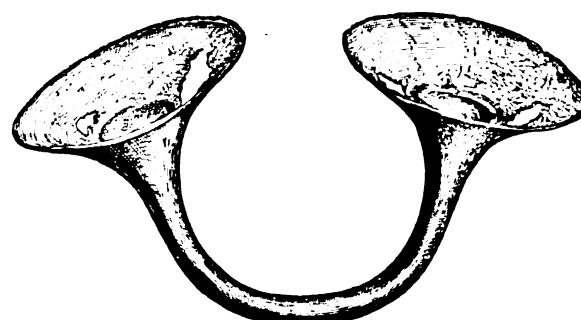
157. Ireland. ($\frac{1}{4}$.)



158. Cromdale, Inverness-shire : gold. ($\frac{3}{4}$.)



159. Ireland : gold. ($\frac{1}{4}$.)



160. Poolewe, Ross-shire. ($\frac{3}{4}$.)

BRONZE AGE OF BRITAIN AND IRELAND: TYPES OF PERIOD V.

Published by the Society of Antiquaries of London, 1908.

No flanged axes.

No axes with stop-ridges.

Socketed hammers (fig. 178).

Tanged chisels; the edge often very broad (figs. 137 and 163).

Socketed chisels, with narrow edge.^a

Tanged gouges.^b

Socketed gouges (figs. 138 and 183).

Tanged daggers; blade narrow; tang very broad, with rivets (fig. 170).

Socketed daggers; blade narrow (fig. 171).

Leaf-shaped swords, often with notches below the hilt (fig. 142). Handle or pommel rarely of bronze (figs. 145 and 191).

Scabbard-tips as figs. 146 to 148 and Evans, *Bronze*, p. 214.

One-edged knives as fig. 174.

Two-edged knives ("razors"), as figs. 133 to 135 and 165.

Round shields, with raised bosses and rings (fig. 144).

Trumpets, as fig. 143.

Socketed spear-heads, often with two crescent-shaped openings in the blade (figs. 129 and 136).

Horse-bits (?) as figs. 130 and 131.

Pins, as figs. 149, 153, and 154.

Bracelets of bronze or gold, as figs. 155, 156, 158 to 160.

Small gold rings, as figs. 150 to 152.

Situla-shaped vessels of sheet bronze, riveted; with two rings (figs. 157 and 189).

Burials. Burnt bodies in barrows, or in cemeteries (without barrows).

Hoards, common.

Some of these types—exactly or nearly the same—are also found in France, as figs. 130, 131, 139, 146 to 148, etc.

Other bronzes, evidently imported from the Continent, belong also to this period (figs. 161, 162, and 172).

Fig. 161.
Sword, Lincoln.
(Imported from
the Continent.)
(L. 28 in.)

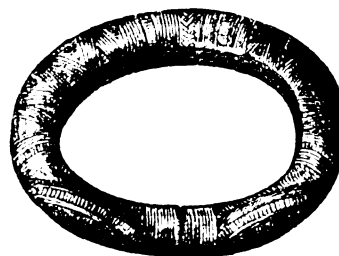


Fig. 162. Bracelet, Liss, Hants
(imported from the Continent). (1/2 in.)

^a Evans, *Bronze*, figs. 200 to 202.

^b Evans, *Bronze*, fig. 203.

1. *Burials.**Scotland.*

116. *Haddingtonshire, Bowerhouses*, near Dunbar (about 1822). In a tumulus: two urns of considerable size, containing burnt bones, a socketed axe and three tanged knives with thin double-edged blades (=figs 133 and 165).^a

As from the foregoing period, no instance of inhumation is known from the fifth period. The mode of depositing the burnt bones in urns, or covering the heap of bones with an urn, continued probably to the end of the Bronze Age. But it is very difficult to distinguish the interments from the fourth and the fifth periods, because objects of bronze so seldom have been found in such tombs.

117. One of the cemeteries (no barrows), probably dating from the fifth period, is that discovered at Newlands, Glasgow. Several pits containing burnt bones were discovered at a depth of 15 to 18 inches under the surface (no barrows). In some pits an urn was inverted and covered the bones. In other pits there was no urn. The urns are of about the same shape as in the fourth period, but the lower part is usually narrower.^b

The appearance of pit-burials without urns at the end of the British Bronze Age is highly interesting, because similar graves also occur in Scandinavia and North Germany before the end of the last millennium B.C.^c

118. Other similar cemeteries, dating from the fifth or the fourth period, have been discovered in a sandpit at Kirk Park, near Musselburgh.^d

II. *Hoards.**England and Wales.*

119. *Berkshire, Wallingford*. Chisel (fig. 163); socketed axe (fig. 164); socketed gouge; socketed double-edged knife; tanged double-edged knife (razor, fig. 165). All entire.^e

^a *Proceedings of the Society of Antiquaries of Scotland*, x. 440; Anderson, *l.c.* 26; Evans, *Bronze*, 220.

^b *Proceedings of the Society of Antiquaries of Scotland*, xxxix. 528.

^c Montelius, *Kulturgeschichte Schwedens* (Leipzig, 1906), 159.

^d *Proceedings of the Society of Antiquaries of Scotland*, xxviii. 62, etc.

^e Evans, *Bronze*, 128, 167, 206, 219.

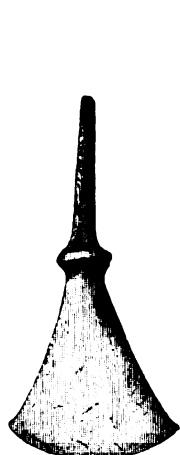


Fig. 163. Chisel.
Wallingford, Berks. ($\frac{1}{2}$.)

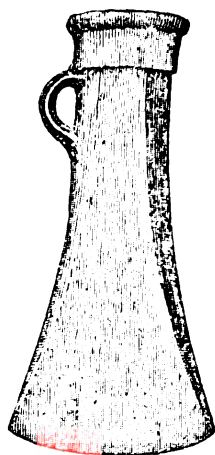


Fig. 164. Socketed celt.
Wallingford, Berks. ($\frac{1}{2}$.)

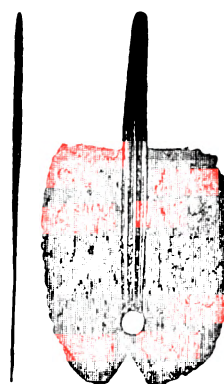


Fig. 165. Razor,
Wallingford, Berks. ($\frac{1}{2}$.)



Fig. 166. Knife,
Reach Fen, Cambs. ($\frac{1}{2}$.)



Fig. 167. Socketed
celt, Reach Fen,
Cambs. ($\frac{1}{2}$.)

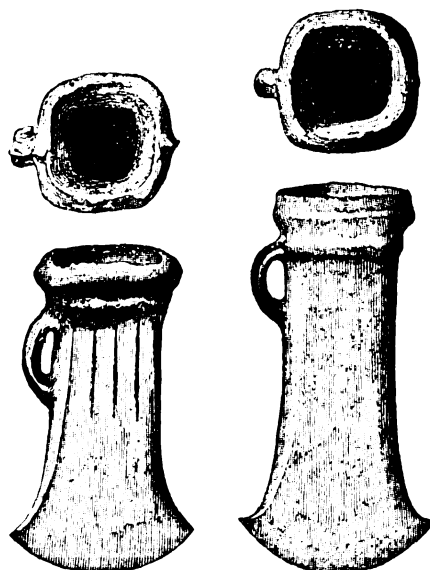


Fig. 168. Socketed
celt, Reach Fen,
Cambs. ($\frac{1}{2}$.)

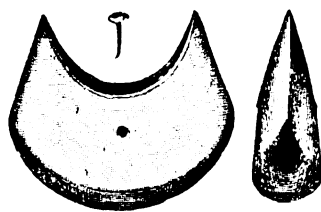


Fig. 169. Chape of Scabbard,
Reach Fen, Cambs. ($\frac{1}{2}$.)



Fig. 170. Tanged
knife, Reach Fen,
Cambs. ($\frac{1}{2}$.)



Fig. 171.
Socketed knife,
Reach Fen,
Cambs. ($\frac{1}{2}$.)

120. *Cambridgeshire, Melbourn*. Socketed axe; gouge; object of the same kind as fig. 130 (horse-bit ?); hollow ring, etc.^a

121. *Cambridgeshire, Reach Fen*, near Burwell. Bronze chisel, with a tang (=fig. 163); twelve socketed axes (some of them with square sockets, figs. 167 and 168); three socketed gouges; punch; hammer; four tanged knives or daggers (=figs. 166 and 170); socketed knife (=fig. 171); two swords, broken; scabbard-end (=fig. 169); seven socketed spear-heads; two horse-bits (=fig. 130); six buttons, etc.^b

122. *Durham, Heathery Burn Cave*. In this cave a great number of objects from the fifth period of the Bronze Age have been discovered (fig. 133), some of them forming small deposits.^c

123. *Essex, near Shoebury*. In digging for brick earth a considerable hoard

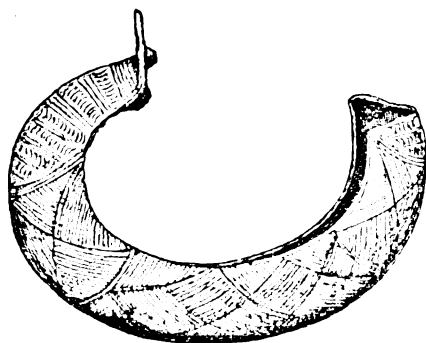


Fig. 172. Bracelet, Shoebury, Essex.
(Imported from Continent.) (3.)

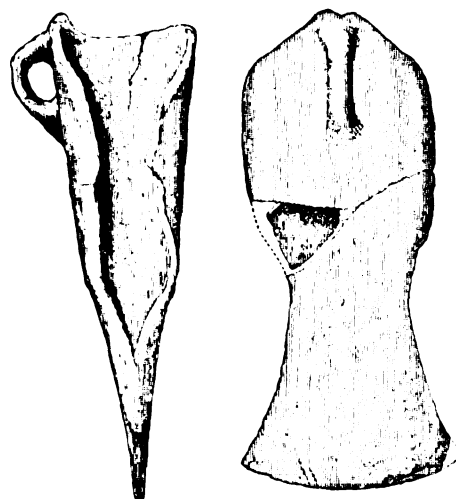


Fig. 173. Celt, Shoebury, Essex.
(Imported from Continent.) (3.)

of bronzes has been brought to light: an axe with stop-ridges; a flanged axe (=fig. 139), and fragment of another similar; twelve socketed axes and three fragments of others similar; an adze blade of foreign type (fig. 173); two fragments of sword blade; a penannular armlet of foreign type (fig. 172); and six portions of copper cakes. The hoard is said to have been placed in an earthen vase. The axe with stop-ridges must have been very old when the hoard was deposited. There was also only one specimen of this type.^d

^a Evans, *Bronze*, 397.

^b *British Archaeological Association Journal*, xxxvi. 56; Evans, *Bronze*, 467.

^c Greenwell, *Archaeologia*, liv. 87.

^d *Proceedings of the Society of Antiquaries of London*, 2nd Series. xiv. 174.

124. *Herefordshire, Broadward*. Tanged chisel; fragments of leaf-shaped swords; thirty-seven socketed spear-heads (one of them with crescent-shaped openings in the blade; others barbed, as Evans, *Bronze*, fig. 422); six ferrules for spear-shafts; two horse-bits (=fig. 131), etc.^a

125. *Hertfordshire, Cumberlow*, near Baldock. Axe with side wings and loop (fig. 139); many socketed axes; fragments of swords and daggers; and rough metal.^b

126. *Kent, Ebbs Fleet*, near Minster, in Thanet (1893). The upper part of an axe with stop-ridge; five axes with flanges hammered over (= fig. 138); four fragments of not socketed axes; thirty-two socketed axes; twenty-nine fragments of socketed axes; one socketed hammer, square section; one socketed knife; another knife (fig. 174); fragment of a sickle; thirty-four fragments of swords,



Fig. 174. Knife, Ebbs Fleet, Kent. (L. 3½ in.).

Fig. 175. Socketed celt. Harty, Kent. (¾.)

Fig. 176. Perforated disc, Harty, Kent. (¾.)

Fig. 177. Ferrule, Harty, Kent. (¾.)

probably indicating as many weapons; four spear-heads; four fragments of spear-heads; three parts of horse-bits? (figs. 130 and 131); one pierced disc with short tube (=fig. 176); five jets from casting; six indeterminate fragments; and forty-nine fragments of circular cakes of copper.^c

127. Kent, Isle of *Harty*, part of the Isle of Sheppey. Both halves of a bronze mould for socketed axes (fig. 182); five axes cast in this mould (fig. 181), and a fragment; both halves of another bronze mould for socketed axes; an axe cast in it; one-half of a smaller bronze mould for socketed axes, with a portion of a lead lining adhering to it; three axes, more or less worn out, cast in it; four socketed axes, from different moulds (fig. 175); both halves of a gouge mould

^a *Archaeologia Cambrensis*, 4th Series, iii. 345, iv. 202; Evans, *Bronze*, 465.

^b Evans, *Bronze*, 94.

^c *Proceedings of the Society of Antiquaries of London*, 2nd Series, xiv. 309.

(fig. 180); two gouges, both from one mould, but it is doubtful whether they are from this; two hammers, with square sockets (fig. 178), two pointed tools (fig. 179); a double-edged knife or dagger; a single-edged knife; a ferrule (fig. 177); a part of a curved bracelet-like object of doubtful use, with small hole near the end; a perforated disc (fig. 176); two pieces of rough copper; a whet-stone.^a

128. Kent, in the *Hundred of Hoo*. The upper part of a winged axe (= fig. 139); sixteen socketed axes; gouge; knife; sword; two spear-heads.^b

129. Kent, in the bed of the *Thames*, off Woolwich (1830). Dredged up



Fig. 179. Pointed tool. Harty, Kent. ($\frac{1}{2}$.)



Fig. 178.
Hammer,
Harty, Kent. ($\frac{1}{4}$.)



Fig. 180.
Gouge-mould,
Harty, Kent. ($\frac{1}{4}$.)

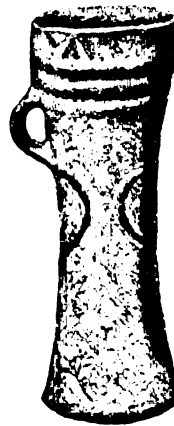


Fig. 181.
Socketed celt,
Harty, Kent. ($\frac{1}{2}$.)



Fig. 182. Mould for celts,
Harty, Kent. ($\frac{1}{2}$.)

together: leaf-shaped sword; round shield with twenty-six concentric rings of studs (= fig. 144).^c

130. *Northumberland, Alnwick Castle* (about 1726). Forty-one socketed axes, twenty swords, and sixteen spear-heads).^d

^a *Proceedings of the Society of Antiquaries*, 2nd Series, v. 408; Evans, *Congrès de Stockholm* 1874, 445; Idem, *Bronze*, 441.

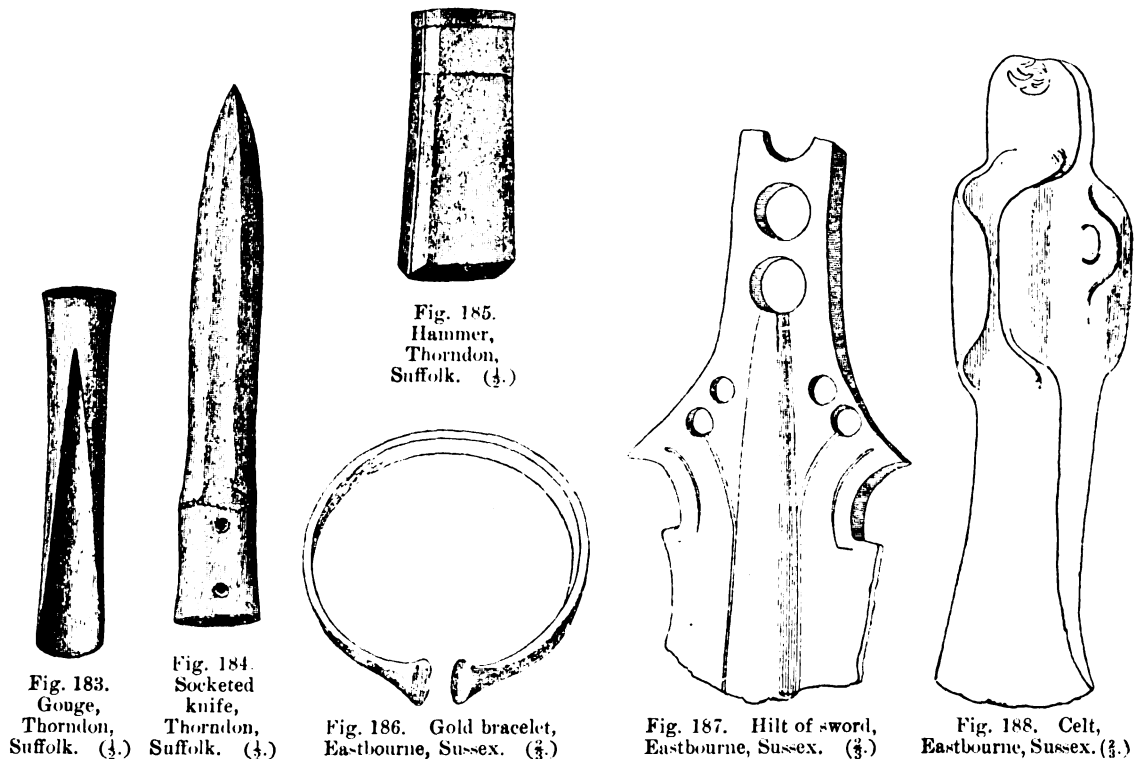
^b *Archaeologia Cantiana*, xi. 123; Evans, *Bronze*, 95, 466.

^c Evans, *Bronze*, 351.

^d *Archaeologia*, v. 113; Evans, *Bronze*, 113, 285

131. Northumberland, *Thurston Farm*, in the parish of Whittingham. "Sticking in the moss with the points downwards, in a circle, about 2 feet below the surface": two leaf-shaped swords, with notches below the hilt (one with the hilt of bronze, fig. 145); three spear-heads (one of them with two crescent-shaped openings in the blade, fig. 136).^a

132. *Suffolk, Thorndon*. Two socketed axes; socketed gouge (fig. 183); hammer (fig. 185); socketed dagger (fig. 184), and spear-head (fig. 129).^b



133. *Surrey, Wickham Park, Croydon*. A winged axe (fig. 139), and part of another; several socketed axes.^c

134. *Sussex, on the sea beach near Eastbourne*, immediately under Beachy Head (1806). Three flanged axes with a loop (fig. 188); two socketed axes; fragment of a sword (fig. 187); three lumps of raw copper, "apparently very pure"; four bracelets of gold (fig. 182).^d

^a *Proceedings of the Society of Antiquaries of London*, 2nd Series, v. 429, pl. iv.; Evans, *Bronze*, 280, 288, 314, 335.

^b *Archaeological Journal*, x. 3; *Horæ Ferales*, pl. v. fig. 36; Evans, *Bronze*, 174.

^c Evans, *Bronze*, 94.

^d *Archæologia*, xvi. 363, pl. lxviii.; *Horæ Ferales*, pl. ix. fig. 8; Evans, *Bronze*, 94.

135. *Yorkshire, Elberston*. Two leaf-shaped swords; scabbard-end (=fig. 148, but slightly more curved).^a

136. *Yorkshire, Roseberry Topping*, in Cleveland (1826). Under a large stone: a socketed axe; a socketed gouge; a socketed hammer; an object (part of a horse-bit ?) like fig. 130; fragments of a flat plate of bronze, the ends hollowed and with crescent-shaped openings or lunettes in them, and with staples for attachment at the corners; lumps of rough metal; and a quadrangular whetstone (?).^b

137. *Yorkshire, Westow*, near York. A winged axe (=fig. 139, but without loop), about thirty socketed axes; six gouges; two or three socketed chisels; two tanged chisels, and numerous fragments of metal, including some jets or runners broken off castings.^c

Scotland.

138. *Ayrshire, Dalduff*, near Crosshill, on the estate of Sir Charles D. Ferguson of Kilkerran (1846). Socketed axes, broken swords, and a caldron ring. As the workmen spoke of the objects having been found in a "pot," they had probably been deposited in a caldron.^d

139. *Ayrshire, Kilkerran* (1846). Socketed axes, fragments of swords, a caldron, with ring-shaped handles.^e

140. *Ayrshire, Lugtonridge*, in the parish of Beith (1779). Some labourers cutting peat discovered four or five bronze shields. Only one of these is preserved: it is of beaten bronze, $26\frac{3}{4}$ inches diameter, with a central boss $4\frac{3}{8}$ inches diameter. The surface of the shield is ornamented with concentric circles of small studs in relief, with concentric ribs or ridges also hammered up from the back between the circular rows of studs.^f

141. Near *Edinburgh*, dredged up from a bed of shell-marl on the bottom of

^a *British Archaeological Association Journal*, xvii. 321, pl. 30; Evans, *Bronze*, 280, 285, 307.

^b *Archaeologia Aeliana*, ii. 213, pl. iv.; *Archaeologia Scotica*, iv. 55, pl. vii.; Evans, *Bronze*, 129, 174, 178, 397, 424.

^c *British Archaeological Association Journal*, iii. 58; *Archaeological Journal*, vi. 381; Evans, *Bronze*, 85, 172.

^d Anderson, *l.c.* 153.

^e Wilson, *l.c.* 227 (figure of a caldron ring); Evans, *Bronze*, 410.

^f Anderson, *l.c.* 155; Evans, *Bronze*, 347.

the loch of *Duddingston* (1780). Twenty-nine pieces of broken leaf-shaped swords, with flattened hilt-plates pierced by rivet-holes; twenty-three portions of large spear-heads (some have the blade pierced by segmental openings, as fig. 136); a ring-shaped side-handle (fig. 189) of a large cauldron of thin beaten bronze, probably the vessel in which the hoard was contained. The whole of the articles

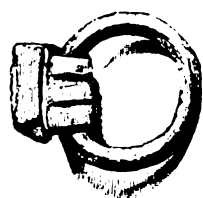


Fig. 189.
Cauldron handle,
Duddingston,
Edinburgh.
(Diam. $2\frac{3}{4}$ inches.)



Fig. 192. Ring-money,
Balmesbanner, Forfar. (†.)

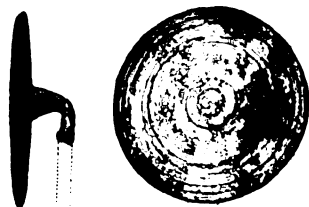


Fig. 190.
Head of pin,
Edinburgh. (†.)



Fig. 191.
Sword with pommel,
Edinburgh. (†.)



Fig. 193. Bronze bowl,
Balmesbanner, Forfar. (†.)

appear to have been purposely broken. A piece of a sword and the handle of the cauldron have been analysed. The former gave 88.5 per cent. copper, 9.3 tin, and 2.3 lead; the later 84.1 copper, 7.2 tin, and 8.5 lead.*

* Anderson, *l.c.* 142; Evans, *Bronze*, 289, 315, 335, 409, 424; D. Wilson. *Prehistoric Annals of Scotland* (Edinburgh, 1851), 227 (fig. of the cauldron-ring), 245 (analyses).

142. Edinburgh, *Grosvenor Crescent* (1869). Fourteen or fifteen leaf-shaped swords, with notches (one of them with a pommel of bronze, fig. 191), pin (flat, round head, fig. 190), two rings.^a

143. *Forfarshire, Balmeshanner*, near Forfar (1892). "It appears that the articles were found when ploughing, the plough having pierced and broken the clay vase in which they seem to have been deposited." The objects found are: a broken clay vase, shaped like the usual cinerary urns of the Bronze Age; one socketed axe of bronze; eleven penannular bracelets of bronze (= fig. 155); three completely circular rings, five smaller rings, and two broken rings, all of bronze; three small penannular rings (fig. 192), formed of a core of cast bronze wrapped round with a covering of thin beaten gold, so as to give the ring the appearance of a ring of solid gold; four rings of gold (fig. 193; see Evans, *Bronze*, fig. 489); thirty-two beads of amber and jet; and an almost semi-globular vessel of cast bronze (4 inches in diameter, fig. 194). This vessel "is still as it came from the mould, the superfluous metal along the line of the junction of the two halves of the mould, and many small protuberances, due to porosities or accidental hollows in the sides of the mould, remaining uncleaned away. The probable reason why the casting had not been cleaned up is that on one side, for about 1½ inch along the rim horizontally, and 1 inch in depth down the side, the metal has failed to run, and consequently there is a gap in that part, which makes the casting a waster. No similar vessel of bronze has yet been found, as far as I am aware, in Great Britain or in Ireland."^b

144. *Forfarshire*. In digging a drain at the *Castle Hill* of Forfar (which lies within the old margin of the Loch of Forfar), about 1855, a hoard of four socketed axes and one spear-head was found.^c

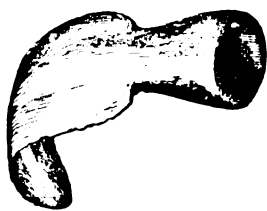


Fig. 195. Lance-head, Skye. (½.)

145. *Inverness-shire, Isle of Skye*, on the north side of the Point of Sleat. In a peat bog: leaf-shaped sword with notches, two spear-heads, pin (cup-shaped head, with a small cone projecting in the bottom of the cup), and a socketed implement of a curiously bent form (fig. 195).^d

146. *Ross-shire, Highfield*, Urray, near Dingwall (1781). In removing a cairn: four socketed axes, two spear-heads

^a *Proceedings of the Society of Antiquaries of Scotland*, xiii. 320, xxxiii. 11; Anderson, *l.c.* 139; Evans, *Bronze*, 289, 372, 401.

^b Anderson, *Proceedings of the Society of Antiquaries of Scotland*, xxvi. 182. ^c Anderson, *l.c.* 160.

^d *Proceedings of the Society of Antiquaries of Scotland*, iii. 102, xiii. 326; Anderson, *l.c.* 145, fig. 144; Evans, *Bronze*, 289, 315, 372.

(one of them with segmental perforations, =fig. 136; the other with unperforated blade). "They were found laid on a flat stone and carefully covered by other stones." ^a

147. Ross-shire, *Poolewe* (1877). Hoard found by a labourer digging peats, at a depth of 6 feet under the surface; all in one spot: three socketed axes, entire, and two of the same form, broken; a hollow ring of bronze, 2 inches diameter, pierced through both sides; a cauldron ring; and a penannular ring with expanding and trumpet-shaped ends (fig. 160). ^b

148. *Roxburghshire*, *Yetholm* (1837). Two bronze shields (fig. 144) were found in digging a drain in a marshy piece of ground; 23½ and 24 inches diameter. Another shield of the same character (22½ inches diameter) was found at Yetholm in 1870, near the place where the two others were discovered. ^c

Ireland.

149. Near *Belfast*. A socketed axe of bronze and three gold clasps (=figs. 150 to 152). ^d

150. Co. Galway, *Athenry*. "In a mound or rath": a large spear-head; a round bronze shield, 14 inches in diameter, with large central boss for hand, and two circles of smaller bosses. ^e

151. *King's County*, *Dowris*, near *Parsonstown*. Thirty-one socketed axes; three socketed gouges; casting for a hammer-head (fig. 196); socketed dagger; tanged dagger; broad rapier-shaped dagger-blade; dagger formed from a part of a sword; broken swords; razors (=fig. 134); twenty-seven spear-heads (one of them with two crescent-shaped openings); trumpets (fig. 143); vessels of thin bronze (the rivets have sharp conical heads; one of the vessels =fig. 157), a pin with a hook somewhat like a crochet-needle, rattles or crotals, rough metal, and some rubbing stones for grinding and polishing. Part of the hoard was deposited in a vessel of bronze. The metal of which most of the articles are formed has a peculiar golden

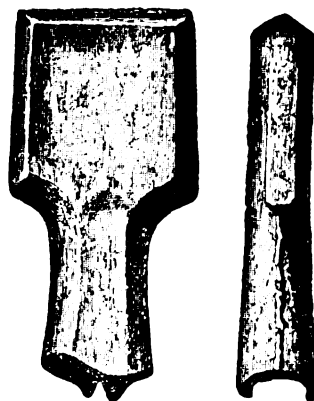


Fig. 196. Hammer, Dowris, King's Co. (†.)

^a Anderson, *l.c.* 153; Evans, *Bronze*, 336.

^b *Proceedings of the Society of Antiquaries of Scotland*, xiv. 45; Anderson, *l.c.* 162.

^c *Proceedings of the Society of Antiquaries of Scotland*, v. 165, viii. 393; Anderson, *l.c.* 156; Evans, *Bronze*, 349.

^d Sets of three such gold clasps are found in other places in Ireland. Evans, *Bronze*, 139.

^e *Horæ Ferales*, pl. xi. fig. 1.

lustre which is thought to arise from the admixture of a certain proportion of lead. The analysis of a trumpet gave 79·34 per cent. copper, 10·87 tin, and 9·11 lead.^a

B. The Absolute Chronology of the Bronze Age in Great Britain and Ireland.

Discussing the question of the absolute chronology of the British Bronze Age, I think it best to begin with the last part of it, because it is not so difficult to fix the date of this comparatively recent epoch as of its predecessors. Subsequently we can try to date also the earlier periods.

There can be no doubt, that the section of the Bronze Age in the British Isles, which I have called the fifth period, must be practically contemporaneous with that section of the Bronze Age in France, which I have called the fifth period.

We find at that time in the British Isles as in France and Switzerland: winged axes, with the wings near the top (fig. 139), axes with square sockets (fig. 140), tanged chisels (fig. 163), socketed daggers (figs. 171 and 184), leaf-shaped swords (figs. 142 and 161), scabbard ends (figs. 146 to 148), knives (fig. 174), razors (fig. 133), horse-bits (fig. 130), bracelets (figs. 162 and 172), etc.^b

Scabbard ends like figs. 146 to 148, which belong to the end of the fifth period of the British Bronze Age, occur frequently, not only in France, but also in South Germany and neighbouring countries, where we can trace a long evolution of this type. The older scabbards (=figs. 146 and 169) are found with such bronze swords as fig. 197, peculiar to the end of the Bronze Age. The latest scabbards of this series (fig. 198) belong to iron swords.

These iron swords, the blades of which, with notches below the hilt, are very much of the same shape as the leaf-shaped bronze swords (fig. 197), date from the first period of the long Hallstatt Age, the beginning of the Iron Age on the Continent. Characteristic of a later period of the Hallstatt Age are such iron daggers as fig. 199.^c The Hallstatt Age ending with the fifth century B.C., and the period of the iron daggers extending over a long time, this period must have begun about 600.

Because iron swords of the same type as fig. 197 have been used during a long time, their first appearance in Central Europe falls certainly before 800.

This result is confirmed by everything known about the first use of iron in Central and South Europe.

^a Wilde, *Catalogue, Bronze*, 360; Evans, *Bronze*, 360, 410.

^b Montelius, *La chronologie préhistorique en France*, fig. 5.

^c Montelius, *Om tidsbestämning inom bronsåldern*, 121.

In Etruria and other parts of Central Italy iron appears about, or rather a little before, 1100 B.C. In Northern Italy it was used before the end of the eleventh century. In Central Europe it was not unknown in the tenth century.



Fig. 197.
Sword and chape,
Germany.

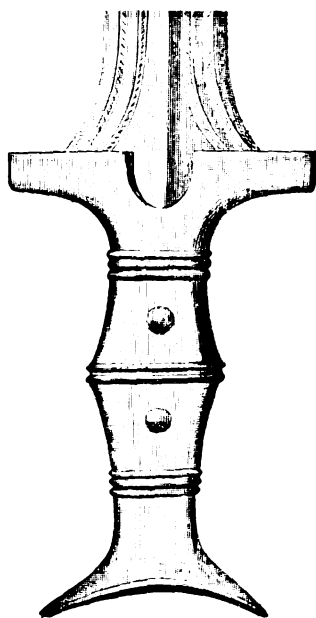


Fig. 200. Sword-hilt, France. ($\frac{1}{2}$.)



Fig. 198.
Chape of scabbard,
Germany.

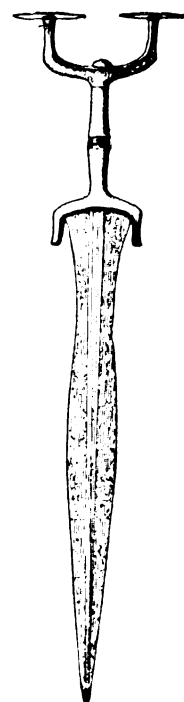


Fig. 199.
Short sword,
Hallstatt.
(L. 16 in.)

In Central Europe, as in other countries, iron was at first very rare and valuable. This is proved by the fact that the bronze handles of some swords dug

x 2

up in Switzerland and Southern Germany are inlaid with iron; the blades are of bronze. Bronze swords of this type (fig. 200) occur frequently in the fifth period of the Central European and French Bronze Age. From the same time date such bronze swords as fig. 161.^a

Several bronze swords of the same kind as figs. 161 and 197 having been found in Italy, together with other bronzes dating from the end of the second and the beginning of the first millennium B.C., it is evident that these types are equally old.

But the blades of those swords have generally no notches below the hilt. They are evidently older than the type fig. 194, to which such scabbard-ends as figs. 146 to 148 belong.

All this confirms the date that we assign to such scabbards, and consequently to the end of the fifth period of the British Bronze Age, viz. the end of the ninth century B.C.

On the other hand the second period of the Bronze Age in the British Isles can also be very exactly dated.

Two bronze axes, which are imported from England and of a type characteristic for that period, have been found at Fjälkinge in Skåne, South Sweden, together with a Swedish and an Italian bronze axe. This most remarkable find is illustrated in figs. 198 to 200.

That the two axes like fig. 198 are imported from England is proved by the form of the blade, by its ornaments, and by the peculiar shape of the sides.^b English bronze axes with the same peculiarities belong to the first period of the Bronze Age, properly speaking, what I have called the first period being the same as the Copper Age.

The Swedish axe (fig. 200) belongs to the end of the first period of the Swedish Bronze Age, or to the transition between the first and the second period.

The Italian axe (fig. 199) belongs to the end of the first period of the Italian Bronze Age.^c The date when that axe came to Sweden is probably not later than about 1700 B.C.

^a A specimen of this type has been found in England, but alone. It was evidently, as Sir John Evans has already observed (*Bronze*, 287), imported from the Continent.

^b English bronze axes with blades of the same form can be seen here in figs. 44 and 67. Compare for the ornaments fig. 83. The sides have the same shape, with long lozenges, as fig. 42.

^c For bronze axes of the same type, with the characteristic notch at the upper end, see Montelius, *Pre-Classical Chronology in Greece and Italy*, pl. 2.

But the English axes in the same find being from the second half of the period that has been called here the second period, the end of this period cannot be later than the seventeenth century B.C.

Considering all this, we find that the interval between the beginning of the third and the end of the fifth period of the Bronze Age in the British Isles is the

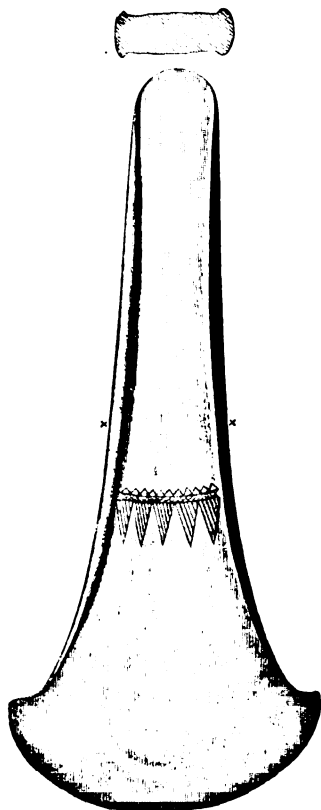


Fig. 201. Flanged celt, Fjälkinge, Sweden, imported from England. ($\frac{1}{2}$.)

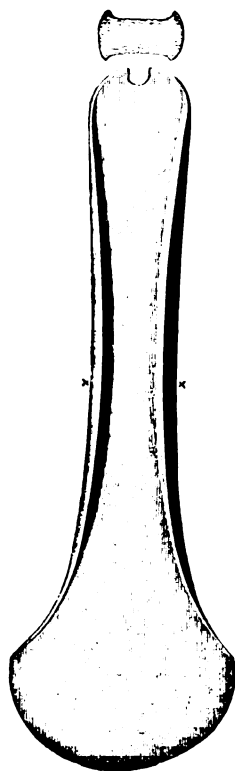


Fig. 202. Flanged celt, Fjälkinge, Sweden, imported from Italy. ($\frac{1}{2}$.)

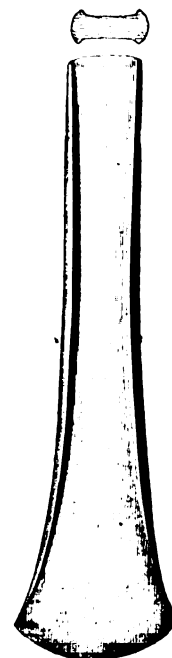


Fig. 203. Flanged celt, Fjälkinge, Sweden, made in Sweden. ($\frac{1}{2}$.)

time from the seventeenth to the end of the ninth century B.C., or about 800 years. If all these three periods have been of the same length, each of them must correspond to a little more than 250 years. But because the fifth period, which includes the transition period to the Iron Age, evidently has been much longer than any one of the other two, I think it better to assign about 250 years to every one of the third and fourth periods and 350 years to the fifth.

Thus the end of the third or the beginning of the fourth period must correspond to about 1400 B.C., and the end of the fourth or the beginning of the fifth period fall in the twelfth century.

From the fourth period in the British Isles as from the fourth period of the French Bronze Age,^a we have such long scabbard ends as figs. 118 and 120.

In the third French period, as in the third British period, appears the *axe* with stop-ridges (figs. 87 and 88).

To better understand the importance of these facts, we must look upon the whole of the evolution of the copper and bronze axes in the British Isles and on the Continent. In both regions the evolution has been almost the same.

In Great Britain and Ireland, as well as in France, Scandinavia, Central Europe and Italy,^b the oldest metallic axes have the same shape as the stone axes: they are quite flat, and the edge is not much broader than the upper part (fig. 11). But in a later period the edge grows broader, and the blade, instead of being flat, develops slight side flanges. We find these flanges ranging from a mere thickening on the margins of the flat axe (figs. 40 and 44) to well-developed flanges, gradually increasing in height (figs. 82 and 83), and we find them first extending along nearly the whole blade, then confined to a part of it (figs. 84 to 86). Many blades taper in both directions from a slight transverse ridge (fig. 40); other blades, of a later time, have a more projecting ridge for the purpose of preventing the blade being driven too far into its wooden handle (figs. 82 and 84). At last greater development is given to this stop-ridge by a reduction in the thickness of the blade above it, and at the same time we find the flanges confined to the upper part of the instrument (figs. 87, 88, and 91).

In other axes the flanges, always growing higher, are confined to the middle of the blade, because it is natural that the middle of the flange is the highest part of it. Such "winged" axes, with the wings, capable of being hammered over the handle to form a kind of semicircular socket on each side of the axe, at the middle of the blade, are characteristic of the fourth period of the French Bronze Age. In the fifth period the rings are placed higher up (fig. 139), at last, near the top.

Later than the first axes with stop-ridges are the socketed axes (figs. 116, 140, and 141).

^a Some French archaeologists, accepting in a most courteous way most of my system for the French Bronze Age, have objected to the separation of the fourth and fifth periods. I know very well, that some finds contain types representing both periods, but the interval between the beginning of the fourth and the end of the fifth period is so long, and there is so great a difference between these parts of the Bronze Age in France, that they must be considered as two separate periods.

^b For the evolution of the copper and bronze axes in Scandinavia and Italy, see Montelius, *Die älteren Kulturperioden* 27 and 21.

If we compare the series of types given by the history of the evolution of the metallic axe with the axe-types indicated as characteristic of the different periods of the British Bronze Age, we find that

- The flat axes of the oldest types have been assigned to the first period;
- The flat axe of later types to the beginning of the second period;
- The axes with slight side-flanges to a later part of the second period;
- The axes with high flanges to the third period;
- The earliest axes with stop-ridges to the third period;
- The later axes with stop-ridges to the fourth period;
- The earlier axes with sockets to the fourth period;
- The later axes with sockets to the fifth period; and
- The axes with wings placed near the top to the fifth period.

In several English copper and bronze daggers we can also recognise a similarity with the metal daggers on the Continent; sometimes we can trace an influence from Italy in the British Isles.

In Great Britain and Ireland, as on the Continent, some of the copper daggers, imitating the flint daggers, have a broad tang; there are generally no rivet-holes in such a tang.

But in the British Isles, as in Italy and other parts of Europe, many of the copper daggers and the earliest bronze daggers have another form, without any tang. The blade is very broad and thin, almost "triangular."

Some British daggers are ornamented in the same way as the Italian ones, by engraved lines parallel with the edges (figs. 38, 41, 75, and 204).

Occasionally the Italian daggers are decorated by a series of small triangles at the base of the handle.* Similar ornaments are to be seen on some blades from the British

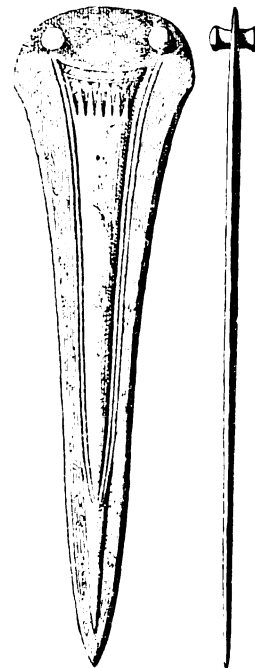


Fig. 204. Dagger, Pitcaithly, Perthshire. ($\frac{1}{2}$.)

* Montelius, *Die Chronologie der ältesten Bronzezeit*, 128.

Isles (figs. 204 and 205). These British daggers, dating from the end of the second period, are evidently from about the same time as the Italian ones, confirming the contemporaneity of the end of the second period, *i.e.* the first period of the Bronze Age in the British Isles and the end of the first period of the Italian Bronze Age, which contemporaneity is proved already by the above-mentioned Swedish find.

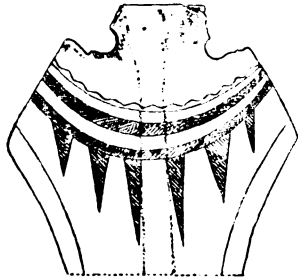


Fig. 205. Base of dagger-blade, Ireland. ($\frac{3}{4}$.)

Two other Swedish finds contain British axes of an earlier type than those represented by fig. 201.^a One of them (fig. 206) formed part of a great hoard discovered at Pile, in Skåne. The other (fig. 208) was found at Skifvarp, in Skåne, together

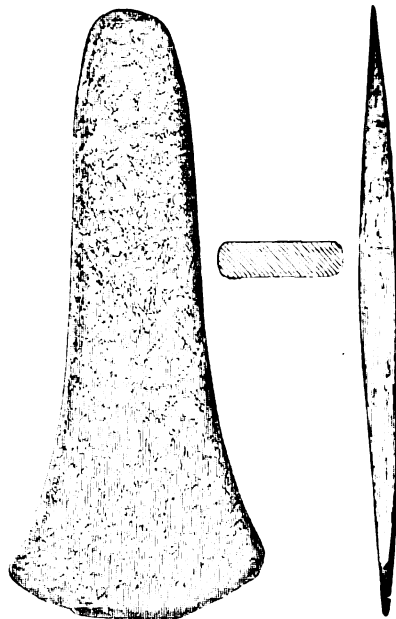


Fig. 206. Flat celt, Pile, Sweden. (Imported from England.) ($\frac{1}{2}$.)

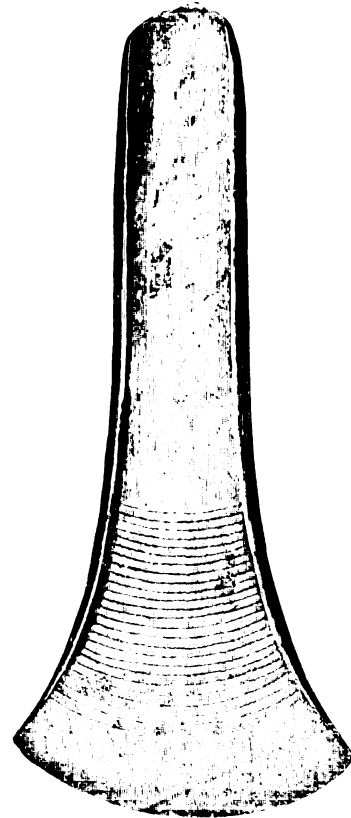


Fig. 207. Flanged celt, Pile, Sweden. (Made in Sweden.) ($\frac{3}{4}$.)

with two Swedish bronze axes of the same type as several in the hoard of Pile.

▪ Montelius, *Die Chronologie der ältesten Bronzezeit*, 54-56.

These two British axes date from the beginning of the second British period, if not from the end of the first. Then it is most remarkable that they accompanied Swedish bronzes (figs. 207 and 209) from a much earlier time than the original of fig. 203.

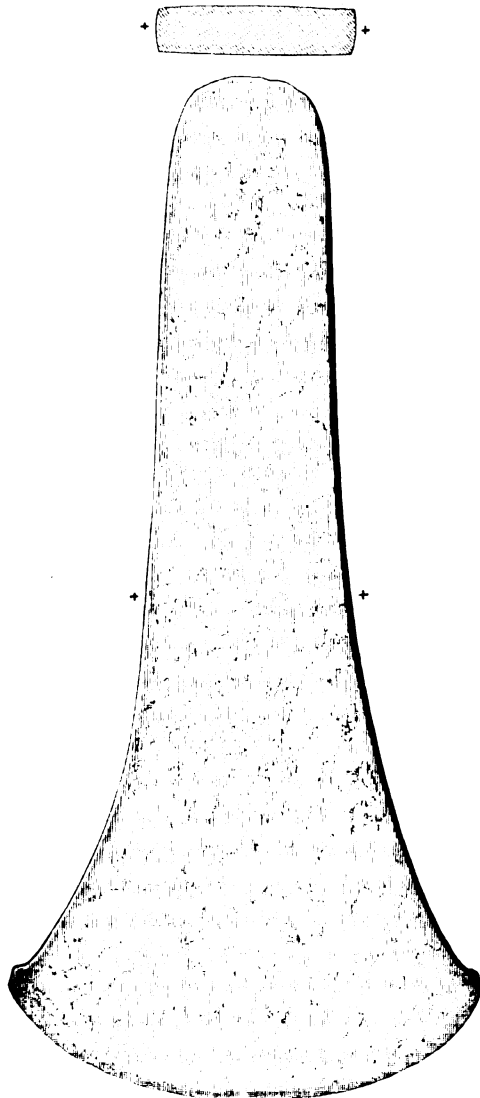


Fig. 208. Flat celt, Skifvarp, Sweden.
(Imported from England.) ($\frac{1}{2}$.)

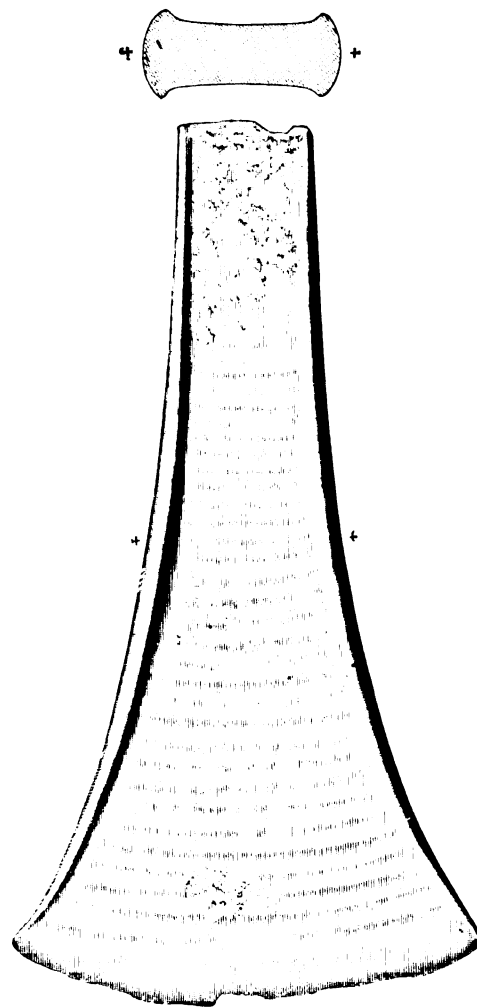


Fig. 209. Flanged celt, Skifvarp, Sweden.
(Made in Sweden.) ($\frac{1}{2}$.)

It is also remarkable, that the two British axes in the last named Swedish find contain about 10 per cent. of tin, the Swedish bronzes in the same finds being very poor in tin. This proves that the period of the true bronze begins earlier in

Great Britain than in Sweden, evidently because the British Isles were so rich in tin, a metal not existing in Sweden.

Drinking cups of the same type as the British ones from the first period, i.e. the Copper Age, have been found in France, and in other countries, in tombs from the Copper Age.^a They also occur in Scandinavia from a late part of the Stone Age, a period when copper was already known there.^b Those finds prove that drinking cups of the same kind as figs. 17 and 19 are contemporaneous with stone chambers ("Gånggrifter") dating from about the middle of the third millennium B.C.

There can be no doubt that the Copper Age, what I have called here the first period of the Bronze Age, had begun in the British Isles at least 2,500 years before our era. New finds will probably give a still higher date for the earliest use of copper there.

Thus we get the following chronology for the Copper and Bronze Age in Great Britain and Ireland :

- Period 1. (Copper Age). From the middle of the third, or from a more remote period, to the beginning of the second millennium B.C.
- Period 2 (the first period of the Bronze Age, properly speaking). From the beginning of the second millennium to the seventeenth century.
- Period 3. From the seventeenth to the end of the fifteenth century.
- Period 4. From the end of the fifteenth to the middle of the twelfth century.
- Period 5. From the middle of the twelfth to the end of the ninth century B.C.

Consequently, the Iron Age began in Great Britain and Ireland about 800 B.C.

I know very well that these dates differ considerably from some opinions formerly expressed about the chronology of the British Bronze Age, but I hope that the results of my researches will prove to be as correct as the facts known at this moment admit.

^a Montelius, *La chronologie préhistorique en France, période 1*; Idem, *Der Orient und Europa* (Stockholm, 1899), 48, 60-66; Idem, *Die Chronologie der ältesten Bronzezeit*, 89, 191.

^b Montelius, *Die Chronologie der ältesten Bronzezeit*, 90, 118; S. MÜLLER, *De jydske Enkeltgrave fra Stenalderen*, in the *Aarbøger for nordisk Oldkyndighed* (1898), 157.

IV.—*Three Inventories: (1) The Earl of Huntingdon, 1377; (2) Brother John Randolph, 1419; (3) Sir John de Boys, 1426. By W. PALEY BAILDON, Esq., F.S.A.*

Read 12th March, 1908.

I. THE ROBBING OF SIR GUICHARD D'ANGLE, K.G.,
EARL OF HUNTINGDON, 1377.

SIR GUICHARD D'ANGLE, Earl of Huntingdon, was a Frenchman, who, having seen much service under the French king, transferred his allegiance to Edward III. He was appointed Marshal of Aquitaine in 1363, and served on the English side in most of the subsequent campaigns. He accompanied the Duke of Lancaster to England in 1372, when he was appointed a Knight of the Garter as successor to the eighth stall on the Sovereign's side, then vacant by the death of Sir Walter Mauny. He was taken prisoner at Rochelle in June, 1372, and was liberated by exchange in 1374. Early in 1377 he was sent to France to negotiate the marriage of Richard, then Prince of Wales, to a daughter of Charles V. of France, and it was probably on his return from this embassy that he was robbed. After the death of Edward III., on 21st June, 1377, he was appointed one of the governors of the young king, and was created Earl of Huntingdon, for life only, at the subsequent coronation. He died early in 1380 (will proved 4th April), and was buried in the church of the Austin Friars in Bread Street. Beltz gives a long account of him, from which this note is mostly taken.

On the Roll of the Court of King's Bench for Michaelmas Term, 1377, occurs the following entry : *

* Coram Rege Roll, No. 467, Michaelmas, 1 Richard II. m. 31.

Kancia.—Ricardus Cook, hosteler, attachiatus fuit ad respondendum Guychardo de Angle, comiti Hunſ, de placito quare ipse, simul cum Johanna Baumpford, vi et armis, bona et catalla ipsius Comitis ad valenciam sexaginta librarum apud Osprenge inventa cepit et asportavit, et alia enormia, etc., ad grave dampnum, etc. et contra pacem domini Edwardi nuper Regis Anglie, avi domini Regis nunc. Et unde idem comes, per Thomam de Shardelowe, attornatum suum, queritur quod predictus Ricardus, simul, etc. die [*Here the record ends abruptly*].

A schedule, stitched to the margin, contains the following inventory :

Ceux sont lez joiaulx que Mons' Gwichard Dangle, counte de Huntynndon, perdist a Osprenge.

Primerment, ces cofres a trusser, en quelez y avoit ceo q'ensuyt :

Une egle d'or et une ceynture et une pendant ovesques une toret tout d'or, poisant cent nobles.

Item une egle de grosses perles fait et un chapelet de grosses perles a entour.

Item une auter egle de perles pluis menuz.

Item une firmail d'or et un gros saphir et emyrove de grosses perles et j ymage de Seint George dedeinz mesme le firmail quant homme le voleit veer homme purroit overer.

Item une auter firmail d'or fait de perles saphirs et de rubies.

Item aneux verges broches et pluis sus auters joiaulx.

Item le garnison d'un cornet d'or.

Item son seal et auters signetz d'or et d' argent, et lettres et auters joiaulx de que nous ne savons la nombre.

Item entre l et lx nobles d'or fait.

Et plusours auters choses et joiaulx de que il ne nous somerent.

Manuaptiores Ricardi Cook, Hosteler'.

Johannes Coggere,

Willelmus Elys,

Johannes Colbrand,

Ricardus Arderne.

Oc̃ Hilarii. Habet diem in xv Pasche per manucapcionem quam prius.

The entry breaks off abruptly, as stated, no reason being apparent, and though I have searched carefully in several succeeding rolls I have failed to find any further record of the matter.

This was in Michaelmas Term, 1377. On 24th August, preceding, a special commission had been issued to Laurence de Breule, Henry Appuldrefeld, Sheriff of Kent, and others, to inquire touching the carrying off at Osprynge of the

goods of Guichard Dangle, Earl of Huntingdon.^a It is not unlikely that a report from these commissioners was the cause of the entry being left incomplete. The matter was not finished in Michaelmas Term, for at the end of the parchment slip above referred to are the names of four manucaptors for Richard Cook, and a note that on the octave of Hilary, presumably 1378, Cook had a day given on the quindene of Easter by the same mainprise as before.

Ospringe, the scene of the alleged robbery, is a village on the main road from Dover to London, just south of Faversham, 46 miles from London, 11 from Canterbury, and 25 from Dover. If the earl on his return from France had landed at Dover, he may well have broken his journey here on his way to London. If, on the other hand, he had come by boat to Faversham, he would join the main London road at Ospringe. It is much more likely, however, that he landed at Dover. There was a hospital or Maison Dieu at Ospringe where no doubt travellers were put up for the night, but the case suggests that the earl stayed at an inn. The accused was Richard Cook, "hosteler," and hosteler in 1377 still preserved its proper meaning of an inn-keeper, and had not come by false analogy to be associated specially with "osses." The man's name, too, suggests a victualler, and Joan Bampford may have been the servant at the inn. We are not told what part she played in the robbery, but she may perhaps have kept the earl amused while Richard Cook decamped with the booty.

A translation of the inventory is as follows :

These are the jewels which Sir Guichard Dangle, earl of Huntingdon, lost at Ospringe.

Firstly, his trussing-coffers, in which was contained what follows :

An eagle of gold and a girdle and a pendant with a tirret [*toret*], all of gold, weighing 100 nobles.

Item an eagle made of large pearls and a wreath [*chapelet*] of large pearls round it.

Item one other eagle of smaller pearls.

Item a clasp [*firmail*] of gold, and a large sapphire and an emerald, with large pearls, and an image of St. George within the same clasp; when one wishes to see it, one can open it.

Item another clasp of gold made with pearls, sapphires and rubies.

Items rings [*aneux*], plain rings [*verges*], broches, and many other jewels.

Item the ornament [*garnison*] of a coronet [*cornet*] of gold.

Item his seal and other signets of gold and silver, and letters, and other jewels of which we know not the number.

Item between 50 and 60 nobles made of gold.

And many other things and jewels which he has not enumerated to us.

^a Patent Roll, 1 Richard II. part 1. m. 14 d.

It does not appear who made this list, but as the first person plural is used twice, it may have been made by the commissioners appointed on 24th August.

The most interesting object mentioned is the clasp with the image of St. George. Although quite unlike any known article of jewellery associated with the Order of the Garter, it seems impossible to believe that any article belonging to a Knight of the Garter and having St. George upon it, was not part of his insignia. The description suggests to my mind a gold clasp with a border of pearls, having two hinged pieces, one ornamented with a sapphire and the other with an emerald; on these being opened, the image of St. George, probably in enamel, appeared inside. The description is rather vague, but the couplet, which may or may not be intentional,

*Quant homme le voleit veer,
Homme purroit overer,*

I think supports this view.

The three eagles suggest the badge of some military order.* The Polish Order of the White Eagle was founded in 1325, but I have not been able to ascertain that Sir Guichard was a member of it. The badge, however, was an eagle.

II. THE INVENTORY OF THE GOODS OF BROTHER JOHN RANDOLF.

The story begins in 1403, when Henry IV. married, as his second wife, Joan, daughter of Charles of Navarre. She was the widow of John de Montfort, Duke of Brittany, and was then acting as Regent on behalf of her infant son. The marriage was from the first unpopular in England, for the Queen's sympathies were mostly French, and many of her relatives were fighting on the

* Mr. W. H. St. John Hope points out that an eagle appears as a badge on the left shoulder of the fine alabaster effigy (figured by Stothard) of Sir Edmund Thorpe (*ob.* 1441) at Ashwelthorpe, Norfolk, and similar eagles occur on his lady's effigy as ornaments to the loops through which her mantle-cord passes, and in the middle point of her headdress. The effigy of the lady on the alabaster tomb of Ralph Green (*ob.* 1418) at Lowick, Northants, also has on her headband an eagle within a circlet of pearls. The same ornament is shown on the torse of Sir William Philip, Lord Bardolf (*ob.* 1441), on his alabaster monument in Dennington church, Suffolk, who likewise has an eagle between his feet, and one is also borne in the first quarter of his armorial bearings. Mr. Hope suggests that the eagle on the effigies was probably the badge of some Order of which nothing at present is known. Sir Edmund Thorpe's effigy further illustrates the *toret*, which was a trefoil ring forming the termination of collars, such as those formed of S-links.

French side in the subsequent wars. On the death of Henry IV. Queen Joan was appointed Regent of England during the absence of Henry V. in France.

In 1419 the Queen was arrested by the Duke of Bedford, then acting as the King's Lieutenant, Henry being still abroad, on a charge of conspiring the King's death by means of witchcraft or sorcery, "by the counsell of Iohn Randolph Doctor of Divinitie, of the order of the Fryars minors, then of the coven of Shrewsbury, her confessor."^a Randolph evidently had warning, for he escaped to Guernsey, according to Holinshed,^b or to Jersey, according to Stow, where he was arrested. He was taken to Cherburgh, thence to Mantes, where Henry V. then was, and thence to Château Gaillard, whence he was brought to the Tower.

On 8th February, 8 Henry V., 1420-1, the sum of £10 was paid at the Exchequer to Nicholas Skericorn, John Skericorn, William Bayldon, Richard Gibson, John Hancock, John Croxton, Richard Ireland, David Gibson, and Richard Hansman, for their labour, costs, and expenses in conducting, by the King's command, Brother John Randolff of the Order of Friars Minors of Shrovesbury, namely, from the castle of Gailard, within the King's Duchy of Normandy, to the King's City of London, and there delivering him to the constable of the Tower of London, by order of the King's Council.^c

The date of Randolph's coming to London must have been earlier than this, and apparently prior to 20th August, 1419. On that day a special reward of £2 6s. 8d. was paid to Richard Pepyr, one of the esquires of the Lady Bergeveny, and Hans, a messenger of the said Lady, for their costs and expenses in coming from Haryngton, co. Worcester, to London, to give information to the King's Council respecting certain goods which belonged to Brother John Randolph, of the Order of Friars Minors, being for certain reasons seized and taken into the King's hands.^d

Randolf is said to have confessed that "he had conspired with the queene by sorcerie and necromancie to destroie the king";^e but the confession, if made, was doubtless extracted under torture. It is, however, plainly stated in the Rolls of Parliament.

1419, October 16.—Be it remembered that upon information given to the King our Sovereign Lord, as well by the relation and confession of one Brother John Randolf of the

^a Stow, *Annales* (ed. Howes, 1631), 358.

^b *Chronicle* (ed. 1585), iii. 568; also Harl. MS. 2256, fo. 193 b.

^c Devon, *Issues of the Exchequer* (London, 1837), 365.

^d *Ibid.* 360.

^e Holinshed, *Chronicles*, iii. 568.

Order of Friars Minors, as by other credible evidence, that Johane, Queen of England, has compassed and imagined the death and destruction of our said lord the King in the most high and horrible way that she could devise, the which compassment, imagination and destruction are openly published throughout the whole realm of England. The goods and chattels of the Queen and of Roger Colles of Salopbirs and Peronell Brocart, lately dwelling with her, who are notoriously suspected of the said treason, are to be seized, in whosoever hands they may be.^a

The Queen, "having all her servants put from her, was committed to the custodie of I. Pellam,^b and by him sent to the Castle of Leeds in Kent, he appointed nine servants to attend her, and to bring her into the Castle of Pemsey [Pevensey], there to bee governed under his providence."^c

All her lands and goods were declared forfeited. She was released after Randolph's death in 1429, and died at Havering-at-Bower in Essex, early in July, 1437, and was buried in the cathedral church of Canterbury, beside her husband, King Henry IV.

Randolph remained in the Tower, apparently a close prisoner, until some time in 1426, or shortly before, when

Richard Scot, Lieutenant off the Toure, by the commaundement off my sede Lorde off Gloucestre [Humphrey, Duke of Gloucester], brouht unto hym Frere Randolff, the whiche hadde longe byfore confessyd treson done by him ayens the Kyngis persone that deede ys [Henry V.]; for the which knowlich he was putte to be kepte in the seyde Toure, and streyte commaunded under grete peyn yevyn unto the seyde Scot to kepe him streytly and seurly, and not to lette him oute off the seyde Toure with oute commaundement off the Kyng, be the avys off his seyde Counceyll.^d

This action of the Duke's, who was acting as Regent during the minority of Henry VI., was merely a move in the quarrel between himself and Henry Beaufort, Bishop of Winchester, the Lord Chancellor. Randolph was subsequently replaced in prison in the Tower, but we are not told when or by whom.

On 5th June, 1429, he was murdered by the parson of St. Peter's in the Tower. The priest is said to have been mad, and inflamed by the heat of the sun. The pair had "fillen in debate and striff withynne the Towr Warde, and there this parsone smote Frere Randulf and slowe him."^e Another account says that the priest, in his madness, slew Friar Randulf with a large flint and afterwards battered his head with a small axe, so that he gave up the ghost.^f

^a *Rot. Parl.* iv. 118 b.

^c Stow, *Annales* (ed. Howes, 1631), 358.

^e Harl. MS. 2256, fo. 194.

^b Sir John Pelham.

^d Kingsford, *Chronicles of London*, 80.

^f Amundesham, *Annales*, i. 38.

So much for the story. Among the miscellaneous inventories preserved in the records of the Exchequer is one, undated, headed "Les Parcelles dez biens Frere John Randolph." It is a list of plate and jewels of a costly description, the bulk of which were of secular use, and the few that were for divine service obviously did not come from any provincial house of Friars. I think it is impossible to resist the conclusion that the things mentioned in it were really the property of Queen Joan. Randolph was her confessor; it may well be that their escape had been planned together, in which case the Queen would naturally take her portable valuables with her. On her arrest, Randolph made off with the goods, hoping, let us charitably suppose, that the Queen would be able to reclaim them at the French court.

The goods belonging to the Queen were declared forfeited to the Crown, and it confirms my theory of their ownership to find that in the wonderful Inventory of the goods of Henry V., the indenture attached to which is dated 26th August, 1 Henry VI.,^a [1423], there occurs a subsection with this marginal note: *Les parcelles del Frere Randolph, esteauntz en la garde du Tresorer d'Engleterre.*^b In this list the weights and values of the various items are given.

The Exchequer inventory is in English, while that in the Parliament Roll is in French; we thus have a bilingual text. This is unusual in documents of this class, and is of considerable value. There are some variations and omissions, but the two as a rule supplement each other, and we get fuller detail sometimes in one, sometimes in the other.

Exchequer Inventory.^c

Les Parcelles dez biens Frere John Randolph.

j tablet of golde with an Image of Seint John of [*sic*] Baptist and j other of Seint Kateryne and other two Images of Virgines.

ij fols of golde with two stonys of Israel and two cheynes of gold and xij perles.

Parliament Roll.^d

Les Parcell' del Frer' Randolph, estauntz en la Garde du Tres' d'Engleterre.

Item, ung Tabulet d'or, esmaille des ymages de Seint Johan le Baptiste, & des autres ymages dehors et dedeins; pois' ij unc' di., pris l'unce xxj s. viij d.—Liiij s. ij d.

Item, ij petites Flascones d'or, ovec ij Cheynes, chescun garniz de vj Perles; pois' ensemble iiij unc' ix d. d'or, dount abatuz pur les Cameux ix d., pris l'unce xxj s. viij d.—iiij li. vj s. viij d.

^a *Rot. Parl.* iv. 214.

^b *Ibid.* 225. This section is wrongly indexed as relating to Abbot Randolph of St. Mary Graces near the Tower.

^c Exchequer, K. R., Inventories, $\frac{1}{45}$

^d *Rot. Parl.* iv. 225-6.

Exchequer Inventory.

iiij parc bedis of gold.

ij spones of gold.

j safre ewage closed in gold wyth o cheyne
an j rynge of the same.

j ring of gold with on square safir writen
herinne *A ma vie*.

j signet of golde a stone of Israel therinne.

j cheyne of golde with on Cros florette,
writen therinne *Amer & servier*.

j ring of golde with a feire balys.

j broche of golde shapyn like an herte,
writen therinne, *A vous me lie*.

j broche of golde, writen, *A ma vie de coer
entier*.

j braunche of corall garnysside with silver
and gilde.

j Serpentyne in the gise of on ryng gar-
nyshed with silver and gilde.

j stone of Israell half white half rede gar-
nished with silver and gild.

j chalys sylver and gild, writen in the
paten, *Benedicamus Patrem & Filium*, and on
the Chalice.

Parliament Roll.

Item, j pair' Pater nosteres d'or, faitz al
manere des coers, les gaudes esmailles de
vert; pois' ix unc' j quarter, pris l'unce
xxxiiij s. iiiij d. — x li. xv s. x d.

Item, j autre pair Pater nosteres d'or, de
mesme la suyte; pois' v unc', pris l'unce
xxiiij s. iiiij d. — cxvj s. viij d.

Item, j autre pair Pater nosteres d'or, fait
al manere des langettz; pois' ij unc' iij
quarter, pris l'unce xxj s. viij d. — en tout
lix s. vij d.

Item, ij coelers d'or, dount j ad j Perle au
bot; pois ensemble ij unc' j quarter, pris
l'unce xxj s. viij d. — xlvij s. ix d.

Item, j Saph' ewage assiz en or, pendant
par iij lynkes, pris vj s. viij d.

Item, j Verge d'or, garniz d'un squar'
Saph', pris vj s. viij d.

Item, j Verge d'or, garniz d'un Pere appelle
Corneole gravez, pris viij s.

Item, j Cheyne d'or, avec j crois esmaill
d'un reson "Amer & Server"; pois j unc'
& viij d. d'or, pris en tout — xxvj s. viij d.

Item, j verge d'or, garniz d'un Baleis,
pris xx s.

Item, ij Broches d'or, faitz al manere
des coers, esmailles de divers resons, pris
xiiij s. iiiij d.

Item, j Braunche de corall, d'arg' dorrez,
pris vj d.

Item, j Sepentyne, fait al manere d'un
Verge, garniz d'arg' dorrez, pris xx d.

Item, j calsidoyne, le moiete blanc, garniz
d'arg' dorrez, pris vj d.

Item, j chalise d'argent dorr', avec le patyn
escript, "Benedicamus Patrem & Filium";
pois' de Troie iij lb. j unc' di., pris la lb.
xl s., — vj li. v s.

Exchequer Inventory.

j Chalys silver and gild with j Image of the Trinite, in the paten writen *Miserere mei Deus calicem salutaris accipiam*.

ij fols of on sute of silver and gild, graven aboute w^t a traile of Ive levys—Liberantur Katherine Regine.^a

j Paxbrede of silver and gild w^t iiij Aungelles atte the coorners, w^t Armes of the Passion.

j Paxbrede of silver and gild, w^t a crucifix, a Mary and John, pounced and enameled.

j sacryn belle of silver and gild.

j tablet of silver an gild enameled w^t a crucifix hanged w^t a lace of golde.

j chauffyng bail of silver and gild w^t a Salutation on that on side and a Trinite on y^t other side.

j sconce silver and gild pounced wiht [*sic*] two Pellicanes.

j Penner and j Incorne silver and gild, writen thereon, *God make us gude men*.

j hye standyng pece covered of silver and gild chazed and pounced, w^t a cnoppe on the coverte enameled grene.

j standyng cuppe of silver and gild covered, pounced w^t traynes and leves withoute and plain w^t [in ?].

j rounde basyn of silver and chazed like a sterre, w^t roses set on the bordures.

Parliament Roll.

Item, j autre chalise d'arg' dorrez, avec l'ymages de le Trinite, escript sur le patyn, "Miserer' mei Deus"; pois' ij lb. j unc', pris la lb. xls.,—iiij li. iiij s. iiij d.

Item, j Pax-brede d'argent dorrez, avec iiij Angelx a corners, avec les arm' de la Passion; pois' j lb. j unc', pris la lb. xxxij s. iiij d.,—xxxvj s. l d. ob.

Item, j autre Pax-brede d'arg' dorr', avec j crucifix, Marie & John, pounsonez & esmailles; pois' ij lb., pris la lb. xls.,—iiij li.

Item, j sakeryng-bell d'arg' dorr'; pois' v unc', pris de l'unc' xxix d.,—xij s. j d.

Item, j chafyng-ball d'arg' dorr'; pois' j lb. j unc', pris la lb. xxxj s.—xxxiiij s. vij d.

Item, j Esconse d'arg' dorr', pounsonez des Pellicans; pois' j lb.—pris, xxxj s.

Item, j Penner' & ung Ynkhorn d'arg' dorrez; pois' vj unc', pris l'unce ij s. vj d.—xv s.

Item, j haute coupe d'arg' dorr', chacez & pounsonez, avec j Pomell sur le covercle esmailles de vert; pois' iiij lb. viij unc', pris la lb. xls.—vij li. vj s. viij d.

Item, j autre coupe d'arg' dorrez, pounsonez des Trailles; pois' ij lb. di., pris la lb. xxxij s. iiij d.—iiij li. iiij s. iiij d.

Item, j rounde Basyn d'arg' dorr', chacez d'un Esteel, avec roses fiches sur les bordures; pois' iiij lb. viij unc', pris la lb. xxxij s.—vj li. ix s. iiij d.

^a Katharine of Valois, widow of Henry V.

Exchequer Inventory.

j peire of smale botelles silver and gild,
putte in two caces of curboile.

j botell of silver an gild with a entreclos of
gold.

v Goblettes of a sute wiht the bordures
gild.

j cace of curboille w^t iiij goblettes and a
covercle of silver gild in the bordures.

j grete bolle of silver covered, chased w^t
ponches.

ij cuppes of a sute of silver chased w^t roses
and ragged stoves.

j cuppe covered of silver chased w^t
ponches.

j cuppe covered of silver of the old make,
writen w^t an R and j W in y^e bose of y^e
coveracle.

j cupe of silver covered with a traylle
graven on the coveracle w^t on reson, *Bene-*
dictus qⁱ venit, etc.

j eupe of silver covered w^t an acorne on
the coveracle hauf gild and hauf white.

iiij tastours of silver playn.

j litell tastour of silver for Rose Watter,
plein.

Parliament Roll.

Item, j Pair' des petitz Botelx d'arg' dorr';
pois' vij unc' iij quarter, pris de l'unc' ij s.
vij d. — xx s. q.

Item, j petite Botell d'arg' dorrez, avec j
entreclos de foille d'or; pois' j unc' j quarter,
pris ij s.

Item, v Gobulettz d'arg', d'un sort; pois'
ensemble j lb. iij unc' di., pris l'unce ij s. vij d.
— xl s. ob.

Item, v autres Gobulettz, avec j covercle
d'argent, & les bordures dorres; pois' en-
semble j lb. v unc' j quarter, pris la lb.
xxxj s. — xliij s. vj d. ob. q.

Item, j graunde Bolle d'arg' covere, chacez
d'un double rose; pois' iiij' lb. ix unc', pris
la lb. xxxj s. — vij li. vij s. iij d.

Item, ij Peces d'argent d'un sort, chacez de
roses & de batons; pois' ensemble x unc',
pris l'unce ij s. vj d. — xxv s.

Item, j coupe covert d'arg', chacez de
Ponches; pois' j lb. vj unc', pris la lb. xxx s.
— xlv s.

Item, j autre coupe covert d'arg', d'aunsien
faisur', escript de R & W sur le pomell; pois'
j lb. j quarter d'un unc', pris la lb. xxx s. —
xxx s. vij d. ob.

Item, j autre coupe covert d'argent, avec j
Traille, gravez sur le covercle de *Benedictus*
Deus in Donis suis; pois' j lb. iij unc', pris la
lb. xxx s. — xxxvij s. vj d.

Item, j coupe coverez d'arg', avec j Ackorne
sur le covercle, le moite blanc & la moite
dorrez; pois' j lb. viij unc' iij quarter, pris la
lb. xxx s. — lj s. x d. ob.

Item, ij Tasters d'arg' pleyn; pois' ensemble
vij unc', pris l'unce ij s. vj d. — xvij s. vj d.

Item, j petite Taster' d'arg' pur eawe des
rases; pois' j unc' di., pris l'unce ij s. viij d. —
iiij s.

Exchequer Inventory.

ij smale cuppes of silver, plein.

j goblet of silver w^t the bordure gild.

j fork of silver w^t a Dragouns hede holdyng up the stalk for grenynges.

iiij [*sic*] spones of silver with the knoppes gold.

j dozeyn spones of diverses sortes.

j litill ladull of silver.

j chalys of silver broken w^t the paten and the fote gild, writen on the fote *Galfryd Barbed*.

j peire of botelles of silver, hanged w^t a lace of silk of white & blake.

j Messall of Salesbury use newe covered w^t motly Baudekyn.

A Ryng of Aunbre w^t a bede knyght with a threde.

A cace of silver gild & enameld w^t Relikes ther in, w^t a crucifix, a Mare & John on the lidde, and a Image of oure Lady on that other syde w^t two men knelyng.

A litill box of Aunbre w^t a litill covercle of the same.

A ryng of silver and gild brod frotted w^t a litill stone of Israel.

A stone of Israel garnessed w^t gold.

Parliament Roll.

Item, ij petites Peces pleines; pois' ensemble x unc', pris l'unce ij s. vj d. — xxv s.

Item, j Furche d'arg'; pois' j unc' di., pris l'unce ij s. vj d. — iiij s. ix d.

Item, iiij doseyns de Cuilliers d'arg'; pois' ensemble ij lb. vj unc' di., pris la lb. xxx s. — lxxvj s. iiij d.

Item, j doseyn cuillers de divers' sortes; pois' ensemble vij unc', pris l'unce ij s. vj d. — xvij s. vj d.

Item, j petite Ladell d'arg'; pois' v unc' j quarter, pris de l' unc' ij s. vj d. — xiiij s. j d. ob.

Item, j chalice d'arg' rumpuz, la patyn & le pee dorrez; pois' ensemble j lb. j unc', pris la lb. xxx s. — xxxij s. vj d.

Item, j pair' Botell' d'arg' plein, pendantz par laces de soy noier & blanc; pois' ensemble j lb. iiij unc', pris del lb. xxx s. — xl s.

Item, j Annule d'aumbre, avec j Pere & j Bede, pris iiij d.

Item, j Tabulet d'yvory, garniz d'ymagerie, avec j case de Querboill, pris xx s.

Item, j petite Tabulet d'arg' dorr', esmaillez d'asur, avec reliques, pris xij d.

It seems incredible that these precious things could have been the property of the house of Friars Minors of Shrewsbury, still less of Brother John Randolph.

It is probably impossible to prove that they were the property of Queen Joan, as I have suggested, but the theory seems highly plausible.

I have made a few notes on the inventory, which I hope will not be deemed impertinent.

Stones of Israel, which are mentioned five times in the English inventory, are called *cameux*, *corneole gravez*, and *calsidoynne* in the French list.

Ewage; this word is used in both lists. It is really a French word, derived from *eau*, and its literal meaning is of the colour of water. It was probably used for several precious stones of various shades of colour, but principally for the jacinth, or rather for certain colours of jacinth. Godefroi gives a quotation (*s. v. aigage*): "*Jagunce sunt de treis maneres L'une est granate, l'autre citrine, l'autre ewage*" In the inventory the phrase is *safre ewage*, which we may take to be a jacinth of a blue colour.

Of especial interest are the numerous pieces of jewellery inscribed with mottoes. Four of these with amatory inscriptions, *A ma vie*, *Amer et servir*, *A vous mē lie*, and *A ma vie de coer entier*, suggest love tokens; and, if my theory of ownership is correct, they were probably given to Queen Joan by one or both of her husbands. Only one of these mottoes is mentioned in the French list.

The two flasks of silver gilt, which had been handed to Queen Katherine before the date of the French inventory, and which consequently do not appear there, were possibly her property, temporally in the possession of Queen Joan.

The two chalices and patens, the two pax-breads, the sacring-bell, the missal new-bound in motly baudekin, and possibly the sponce and some of the phials or bottles, may have been used in the Queen's private chapel. The missal is not mentioned in the French list; it may have been sent to Leeds or Pevensey for the Queen's use, or it may have been in other custody.

Another article suggestive of ecclesiastical use is the cup engraved with a trail and a motto, which is given differently in the two documents. The English list has *Benedictus qui venit*, the French list gives *Benedictus Deus in Donis suis*.

The two cups chased with roses and ragged staffs suggest a gift from one of the Beauchamps, earls of Warwick.

The total value adds up to £106 15s. 11½d., which probably represents considerably over £2,000 now allowing for the difference of money value.

III. THE BURGLING OF SIR JOHN DE BOYS, 1426.

Strictly speaking, this is not an inventory, but a list of goods stolen from the house of Sir John de Boys at Harrow, in September, 1426. Its sole interest is to supply a good illustration of a fact of which we are all well aware, namely, the prodigious accumulation of silver that existed in the houses of relatively small and unimportant people. We get our information on this topic mostly from wills, and it is a little variety to have it in an indictment.

Of Sir John de Boys I know nothing. He was very likely a soldier who obtained much loot during the French wars of Henry V., but this is a mere guess. He is probably the Sir John Boys who, by his will dated in 1447, directed that his body should be buried in Harrow Church.^a There is no brass or monument in the church that can be identified as his.

Middlesex.—William Elys of Totenham in the County of Middlesex, hosteler, was indicted before the Keepers of the Peace for the county aforesaid, that he and others on the Monday next after the feast of St. Matthew the Apostle [September 21], 5 Henry VI. [1426], did feloniously break the close and houses of John de Boys, Knight, at Harwe [Harrow], and did feloniously seize and carry away his goods and chattels there found, against the peace of the said Lord King, to wit, two "bassyns" of silver, two ewers of silver, three dozen of "selver vessel," two basins [*olla*] of silver gilt, twenty-four cups of silver, six of them gilt, five "selers" [salt sellers] of silver, twelve "gobellettes" and a ewer of silver, four ewers of silver gilt, two dozen silver spoons, a girdle [*zona*] called "ers girdell," of gold and silver, one other girdle "harnessed" with silver and gilt, one "coler" of gold with one "noche," one other "coler" of gold in form of a "wrethe," one great "tabelet" of gold with an image of Blessed Mary, a gold ring with a "deamond," another gold ring with a "rube," another gold ring with a "safere," twelve other gold rings, four "noches," six gold "broches," one "rope de corall," one "chapelet embrowdet with perles," one other "chapelet" of "spanges" [? spangles] of gold and silver, one other "chapelet" of silk, eight "tempelers" with their "felettes" of gold and "perles" and four ounces of "perle," forty "peces de kercheves," forty pairs of sheets, two hundred and forty "peces de naprye de Jaynes" and other linen cloths, two linen cloths, one of them "inbrodet" with gold, another cloth of silk, one robe [*toga*] of "satyn embrowdet with perles" furred with "fuynes puret," price 100 marks [£66 13s. 4d.] one fur of "fuynes puret," one other robe of "grene" furred with "fuynes," one other robe of "scarlet" furred with "martyns," one "dobelet" of silk, one other "dobelet" of "fustyan," one other robe of cloth of silver, three ells of black cloth of "leer," seven ells of blue cloth [*panni blodei*], one piece of

^a Lysons, *Environs of London*, ii. 575.

"worstede doubell," one book of "relekes," one "primer," one horse price 40s., one sword for two hands, one hood of black [cloth] of "leer," two pair of "hosen," two bows, and other goods and chattels to the value of 1,000 marks [£666 13. 4d.] and 100 marks in coined money. He was acquitted.*

NOTES.—*Tempelers* or *templettes* were bands or circles, generally of metal, worn by women round the head to keep the hair in place. They are often shown on brasses of the period.

Fuynes puret.—Fuynes, fouine, is the fur of the martin. I am unable to explain *puret*.

Cloth of leer.—The *New English Dictionary* defines "cloth of leer" as cloth of Lyre or Lire, a town in Brabant, from which pieces are recorded to have been exported duty free for the King of Portugal and the Countess of Holland in 1428. Nothing seems to be known as to its precise character.

* Coram Rege No. 663, Hil. 5. Henry VI. m. 8.

V.—*The Round Church of the Knights Templars at Temple Bruer, Lincolnshire.*
By W. H. ST. JOHN HOPE, Esq., M.A.

Read 21st May, 1908.

ONE is sorely tempted in writing upon matters connected with the Knights Templars to say something about the monstrous persecution and terrible sufferings which the unhappy brethren of the Order endured, during the opening years of the fourteenth century, at the hands of an infamous King of France, a more wicked Pope, and even of a King of England, as an excuse for bringing about their suppression.

But the subject has already received the attention of abler hands than mine,^a and the purpose of this paper is not to lay before the Society any new facts about the Order, but some notes upon a curious church of the Knights Templars at Temple Bruer which I have lately had an opportunity of investigating.

When the Order first came to England is uncertain, but probably shortly after 1130, the first house being settled on the south side of Holborn on a site between the present Chancery Lane and Staple Inn.

Seeing that there were between thirty and forty preceptories (as they were called) of the Templars in this country at the time of the suppression of the Order in 1312, it is curious that so few of their buildings should be left, and that so little should be known about them. And it is not as if the suppression had been followed by the destruction of the preceptories; on the contrary, with but few exceptions, they were passed on intact with the grant of the landed possessions to the kindred Order of the Knights of the Hospital of St. John of Jerusalem, which used and enjoyed them until it in turn was suppressed in the sixteenth century. A few churches have indeed survived, with here and there an odd

^a See Anthony O'Neal Haye, *The Persecution of the Knights Templars* (Edinburgh, 1865).

building or so, but of the nature and arrangement of a preceptory of the Knights Templars we are still in the dark.

The account rolls of the possessions of the Order, now in the Public Record Office,^a while they were in the receivers' hands before their grant to the Hospitallers, contain numerous inventories of the contents of the preceptories, which show that the buildings included a church or chapel, oftentimes a *camera* or set of lodgings, and always a hall and kitchen, with such usual adjuncts as a larder, bakehouse, brewhouse, cellar, etc. But these are only the average components of an ordinary manor house of the period, and there is no evidence of a chapter-house, though such seems to have been usual, or of a common dorter. At the London Temple, however, the buildings included a *dortorium*, a name affording interesting transition from the Latin *dormitorium* to the usual English form "dorter." Since the Templars did not use nor live in a cloister, like monks and regular canons, there is no mention of such, even in the Statutes of the Order, but we may assume that ample use was made of that favourite medieval structure, the pentise, to pass under cover from building to building.

Whatever was the model from which they were imitated, and on this there is some difference of opinion, there can be no doubt that the earliest churches of the Order, in this country as elsewhere, were circular in plan, with an aisleless presbytery eastward. The smallness of the presbyteries may perhaps be explained by the fact that as the brethren were unlettered they did not keep the quire offices like monks or canons who could read, but were dependent upon a chaplain or chaplains for the performance of divine service. Since, too, they were uncloistered, the number of knights who were at home was constantly changing.

That the Old Temple in Holborn had a round church we know in the first place from a statement by John Stow :^b

Beyond the Barres had ye in olde time a Temple builded by the Templars, whose order first began in the yeare of Christ 1118. in the 19. of Henry the first. This temple was left and fel to ruine since the year 1184. when the Templars had builded them a new Temple in Fleet street, neere to the river of Thames. A great part of this olde Temple was pulled downe but of late in the yeare 1595.

A few lines further on Stow adds :

One Mayster Roper hath of late builded there, by meanes whereof, part of the ruines of the old Temple were seene to remaine builded of Cane stone, round in forme as the new temple by Temple barre.

^a L. T. R. Miscellanea, Enrolled Accounts, 18, 19.

^b John Stow, *A Survey of London* (London, 1598), 361.

Stow's statement was fully confirmed in 1875, during excavations for the building of the London and County Bank. A plan made by Mr. Zephaniah King, kindly lent to me by Mr. Walter Spiers, shows that there was then discovered the concrete foundation, $5\frac{1}{2}$ feet broad, of a circular wall of 20 feet internal diameter, and upon it the bases of six round pillars, each 2 feet 9 inches across and resting on a square plinth. These evidently belonged to the nave of the Old Temple, and give for it an approximate span of about $22\frac{1}{2}$ feet, and a probable total diameter of 45 feet for the round part of the church. Unfortunately no note seems to have been made of any possible remains of the outer wall or of the presbytery.

The circular nave of the church of the New Temple, or so much of it as has escaped the restorers, is well known. Its total internal diameter is 57 feet, and of the arcade 29 feet. Like the Old Temple church it has only six arches. Opening out of the nave by three arches on the east is a later quire with north and south aisles, which was hallowed in 1240; but the side arches are insertions of the same date as the new quire, and the church originally had an aisleless presbytery entered by the existing middle arch. The foundations of it were discovered during the restoration of 1841 serving as sleeper walls beneath the three western bays of the later work, but no transverse wall was met with eastwards. It may therefore be assumed that the first presbytery was three bays long and terminated in an apse. The church in its original form was hallowed by Heraclius, the patriarch of Jerusalem, 10th February, 1185-6.

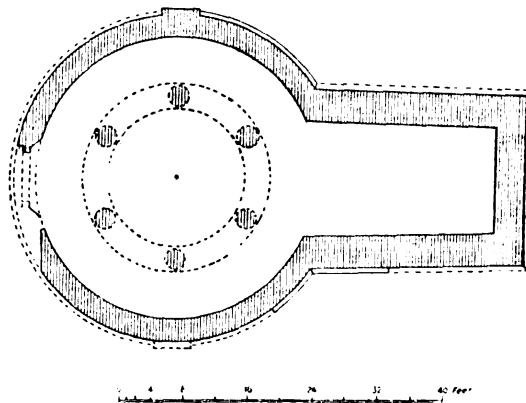


Fig. 1. Plan of the Templars' church on the western heights at Dover. (Adapted from *Archaeologia Cantiana*, vol. ii.)

The remains of another church of the Templars were uncovered on the western heights of Dover about a century ago, and are engraved in the 11th volume of *Archaeologia Cantiana*. As there figured they consist of a circular nave, 35 feet in diameter, with a square-ended presbytery with side walls slightly converging towards the east, where they are 13 feet apart. I do not know whether search was made for an internal arcade, but such must have existed, and I have ventured to insert one of six arches in the accompanying plan (fig. 1). The foundations were still in existence when I visited them some five-and-twenty years ago.

Besides Temple Bruer, in Gough's edition (1789) of Camden's *Britannia* (ii. 247) is the following note of the preceptory at Aslackby, Lincs.:

Here was a round church, now rebuilt as a farmhouse, and still called the *Temple*. The embattled square tower remains at the south end, of two stories, the upper open to the roof till lately inclosed and fitted up as a chamber by Mr. Douglas, the owner; the lower a cellar vaulted with groined arches, on whose centre were eight shields,

which Gough proceeds to describe. Mr. Fane and I paid a visit to Aslackby in Easter week, but found no other trace of the Temple than the large keystone with the shields of arms, and a number of architectural fragments built into a modern house. The tower mentioned by Gough was standing so lately as 1891, when it "fell down" on the eve of its being repaired. A lot more architectural fragments were then removed to the garden of Mr. Smith at Horbling, where they are piled up rockwork-wise.

How many other round churches the Templars built in England it is at present impossible to say, but it would certainly be worth while making a systematic examination of every available site, at any rate of those of early foundations. Later on the round plan seems to have been abandoned, and the early thirteenth chapel of the Swingfield Preceptory, not far from Dover, is rectangular. So too is the chapel at Temple Balsall, in Warwickshire.

Besides the Templars, the Hospitallers or Knights of the Order of St. John of Jerusalem also built round naves to their churches, and part of the foundations of that of their great church at Clerkenwell was uncovered in 1900 and may still be seen. The original presbytery, as the existing crypt of it shows, was narrow and aisleless, and of three bays with an apsidal end.

The church of the Hospitallers' preceptory at Little Maplestead, founded about 1185, still retains its round nave and apsidal chancel, but the original arcade was rebuilt early in the fourteenth century, probably to carry a belfry.

In addition to the circular naved chapel in Ludlow Castle which I described to the Society a few weeks ago there are two more churches in this country which have round naves, at Cambridge and Northampton respectively. Both these are parish churches, and both are dedicated in honour of the Holy Sepulchre, which no doubt accounts for their plan. The Northampton church (plan, fig. 2), which is the older, was built before 1116, in which year it was given to St. Andrew's Priory. The Cambridge church has been so hopelessly "restored" that it is difficult to say much about it, but it is apparently of a date *circa* 1130. Neither church had any connexion with either of the Orders that built round naves, and the same may be said of the Ludlow Castle chapel.

Of the beginnings of the preceptory at Temple Bruer so little is known that the new Victoria County History can only state in general terms that "it was founded late in the reign of Henry II. by William of Ashby, who was admitted soon afterwards into the fraternity of the house, and increased the original endowment before his death."^a Nothing is recorded about the buildings, but the issue in 1306 of a licence that the master and brethren of the *Militia* of the Temple in England "may make and crenellate a certain great and strong gate at their manor of the Heath (*de la Bruere*) in Lincolnshire," points to their enclosure by a walled precinct.^b

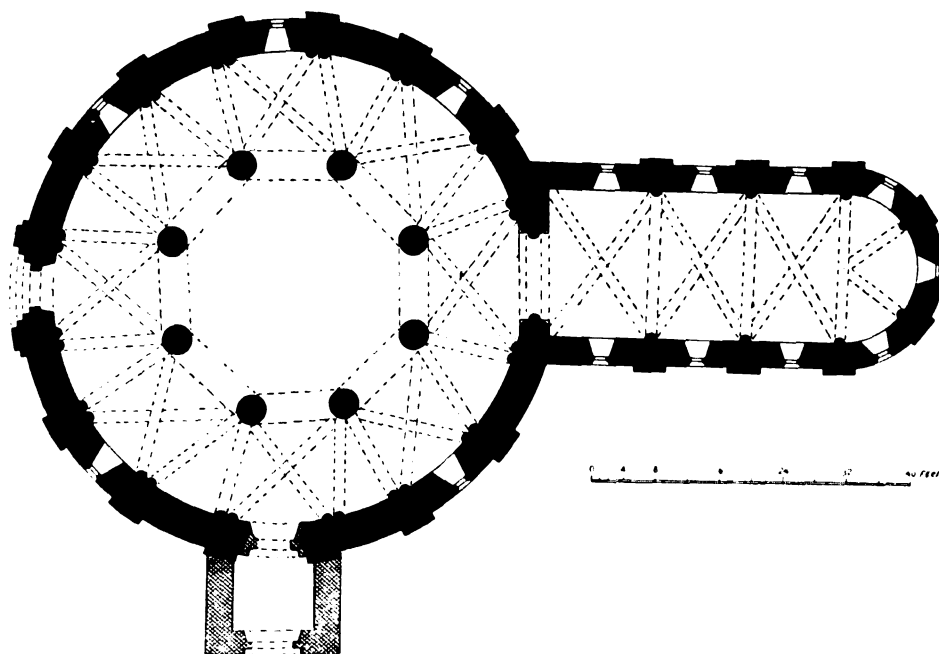


Fig. 2. Restored plan of the first church of the Holy Sepulchre at Northampton.^c

Temple Bruer is situated on the high ridge, once a barren heath, which extends from Sleaford and Ancaster on the south to Lincoln on the north, from which city it is distant about 12 miles.

The preceptory was visited in 1538 or 1539 by John Leland, who notes that "there be great and vaste Buildinges, but rude at this Place, and the Este end of the Temple is made *opere circulari de more*. . . ."^d

^a *The Victoria History of the County of Lincoln*, ii. 212.

^b Patent Roll, 34 Edward I. m. 9. See post for full text.

^c Based on a plan by Mr. Thomas Garratt in *A History of the Church of the Holy Sepulchre, Northampton*, by J. Charles Cox and R. M. Serjeantson (Northampton, 1897), 31.

^d *The Itinerary of John Leland the Antiquary* (2nd edition, Oxford, 1745), i. 30.

Leland's reference to the church is not very clear, as an engraving of its remains published by Samuel Buck in 1726 (Plate XIX.) shows that it had a round nave, the south wall of which was then standing, and not merely an apsidal east end.

In 1837 the Rev. G. Oliver, D.D., vicar of Scopwick, published in his *History of the Holy Trinity Guild, at Sleaford*, an interesting account of certain investigations made by him at Temple Bruer, from which I must quote freely.

Temple Bruer, Dr. Oliver says (p. 25),

is situated in a retired valley on the heath, surrounded by an amphitheatre of hills not far distant from the Hermen-street; and it was connected with that road by a private way winding through a ravine which communicated with the fortified entrance to the Temple, and was visible only from the Warder's tower, which rose out of the centre of the buildings. Westward of the tower stood the church which was accessible by cloistered passages connected with the principal buildings by which it was surrounded.

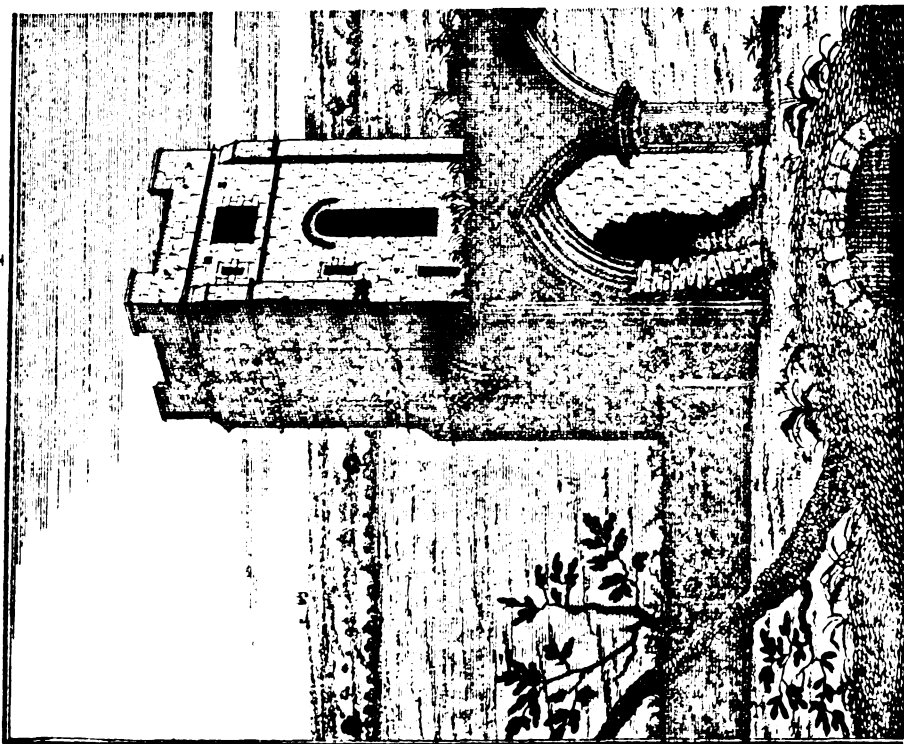
In the years 1832 and 1833, Charles Chaplin, Esq., of Blankney, placed some workmen under my direction for the purpose of excavating the foundations which had been undisturbed on the north and west of the tower. The first excavation was made at the tower, as I confidently expected to find a vault in that situation, because the floor of the lower story is elevated five feet above the ancient surface of the ground. Whatever space might formerly have existed here, it had been filled in; but we came to a narrow subterranean passage, which appeared to take its rise in this vault, and issuing under the north door by a winding passage eastward, passed on to the buildings in that quarter, the very foundations of which have disappeared. The walls of this passage are coated with plaister.

In our researches on the site of the church, we discovered in a perfect state the ancient circular plinth and four feet of wall, but buried under a vast accumulation of rough and squared stones, a large number of them handsomely carved and polished. Norman columns and capitals; zig-zag and other mouldings, earth and cement, and the tangled roots of large trees which grew amongst the foundations.

Heu, lapidum veneranda, strues!

The circular church is fifty-two feet in diameter within; and appears to have been supported by a peristyle of eight cylindrical columns, with massive bases and capitals, from which sprang a series of circular arches profusely ornamented with bold zig-zags and other Norman enrichments; occupying, together with the aisle or space thus formed, exactly one half of the diameter. The outer face of the plinth which supports these columns is the segment of a circle, and measures four feet six inches; while the inner face is only three feet and a half, and the circular impost at the base of the column is three feet two and a half inches in diameter, and the column itself three feet two inches. A portion of the aisle on the north side had been used as a private chapel; in which were a tomb, an altar and a stone bench for the officiating priest. On the west was the principal door of entrance, with an

The North View of Temple Bruer in 1



To Sir C. H. A. R. L. E. S. B. U.
 This Prospect is humbly In-
 this much Oblig'd & humble

BUCK'S VIE

ascent of stone steps, and a magnificent porch, the foundations of which remain perfect; and in the floor are two coffin-shaped stones, one plain, and the other charged with a cross botony fitchée in relief. No interments, however, were found beneath them. A communication was formed between the church and the lower story of the tower by means of cloisters; and this small apartment, which could have admitted but few persons, as it is only seventeen feet square, was fitted up for performance of high mass, and was probably used as a choir or chancel.

The rest of Dr. Oliver's description of the tower, since it still exists, need not be quoted. He continues :

p. 28.] On the floor at the east end of the church was an encaustic pavement, and several glazed tiles have been thrown out, of diversified shapes and colours : some are triangular, some square, and others oblong, and they were doubtless laid in such a manner as to compose some harmonious pattern. Beneath the church and tower was a perfect labyrinth of vaults and dungeons, and intricate passages, arched over with stone, branches of which run under the doors of the church and tower, and below the pavement of the cloisters.

To this last statement Dr. Oliver appends the following footnote :

Some of these vaults were appropriated to uses that it is revolting to allude to. In one of them a niche or cell was discovered, which had been carefully walled up; and within it the skeleton of a man, who appears to have died in a sitting posture, for his head and arms were found hanging between the legs, and the back bowed forward. Immuring was not an uncommon punishment in these places. An instance of it was discovered a century back, in one of the walls of Thornton Abbey, in this County; and Sir Walter Scott has drawn a thrilling picture of such an occurrence, in his beautiful poem of *Marmion*, canto xi. Another skeleton of an aged man was found in these dungeons, with only one tooth in his head. His body seems to have been thrown down without order or decency, for he lay doubled up; and in the fore part of his skull were two holes, which had evidently been produced by violence. In a corner of one of these vaults, many plain indications of burning exists. The wall stones have assumed the colour of brick, and great quantities of cinders mixed with human skulls and bones; all of which had been submitted to the operation of fire, and some of them perfectly calcined. This horrible cavern had also been closed up with masonry. Underneath the cloisters, between the church and tower, many human bones were discovered, which appear to have been thrown together in the utmost confusion, and lying in different strata, some deep and others very near the surface; amongst which were the skeleton of a very young child, and the skull of an adult, with a round hole in the upper part, into which the end of the little finger might be inserted, and which was probably the cause of death. Near these interments was a vast mass of burnt matter of various descriptions; and the fire had been so fierce, that the external surface of a massive cylindrical column, which was discovered near, is completely cinerated.

184 *The Round Church of the Knights Templars at Temple Bruer, Lincolnshire.*

Several large square stones were taken up with iron rings attached; and altogether, the ruins exhibit woful symptoms of crime and unfair dealing. We can scarcely forbear enter-

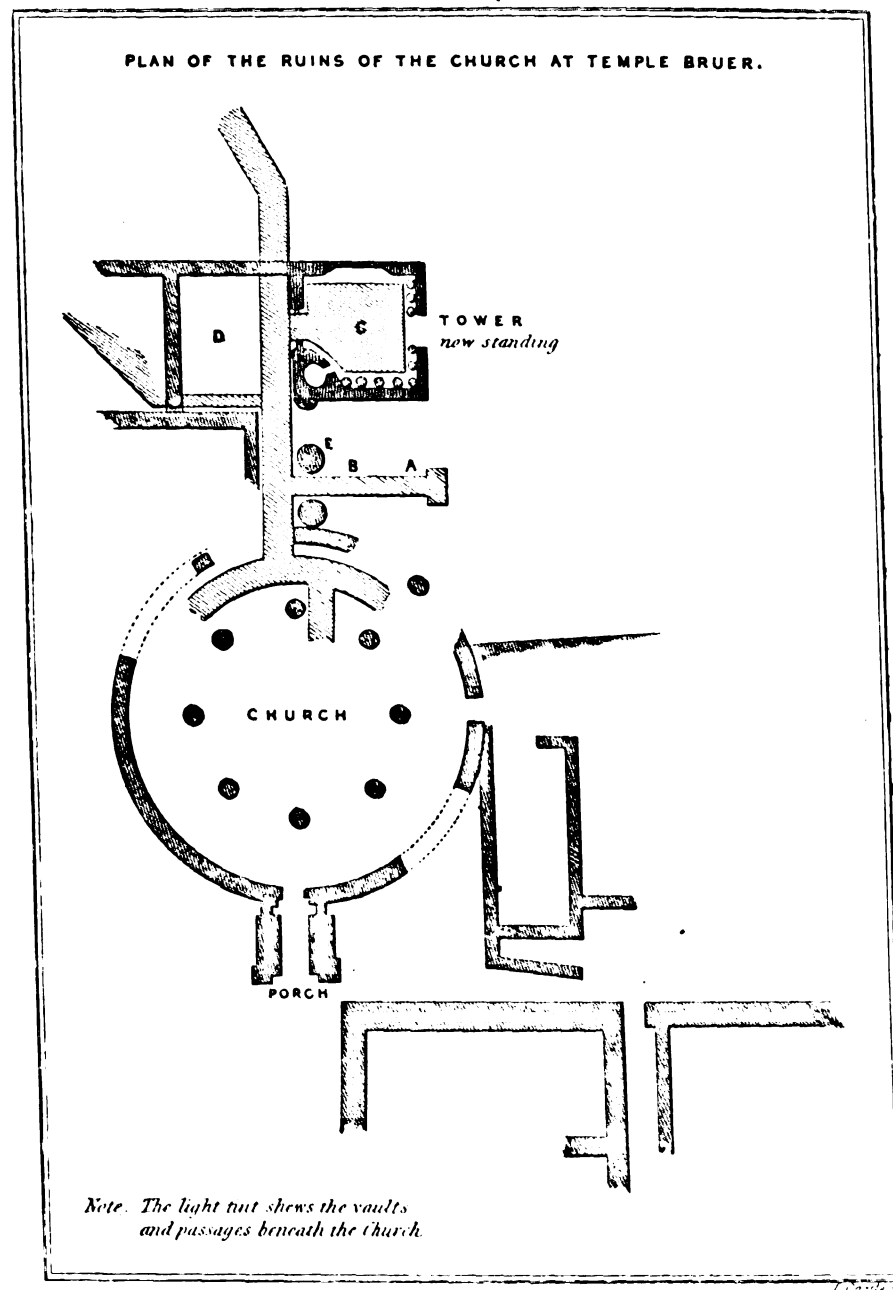


Fig. 3. Dr. Oliver's plan of his discoveries at Temple Bruer.

taining the opinion that these are the crumbling remains of unhappy persons, who had been confined in the dungeons of the preceptory; for the Templars and their successors

were always in feud with their neighbours, and would not be very likely to remit, what they might conceive to be the merited punishment of delinquency.

In 1841 Dr. Oliver communicated to the now defunct Lincolnshire Topographical Society a paper on "Temple Bruer and its Knights," which was published in its Transactions in 1843.^a

This paper is accompanied by a "plan of the ruins of the church at Temple Bruer," showing the result of the excavations and indicating by a lighter tint "the vaults and passages beneath the Church." The lurid descriptions of the discoveries of 1833-4 are duly incorporated in the paper, and made somewhat clearer by lettered references to the plan, which is here reproduced (fig. 3). At the point marked A was the reputed cell or niche that contained the skeleton of the immured man, while B indicates the place where many human bones were found thrown together. The remaining letters are explained in the following passage: ^b

Now it will be observed that in the space between the circular Church and the Tower at Temple Bruer, where the Knights assembled for solemn purposes, there was a small room (see *Plan d.*) which was probably used as a vestry on ordinary occasions, but on the admission of a Knight, it was converted into a room for the preparation and examination of the candidate; and a communication was formed between the Church, this ante-room, and the lower story of the Tower, by means of cloisters, which constituted also an avenue leading to other buildings which extended towards the north, (see *Plan e.*) From this ante-room was probably a communication, by means of a trap door and staircase, to a vault underneath the Tower (see *Plan c.*) for, at the time it was excavated, I opened the subterranean entrance to that vault, which was in some measure connected with the initiations, because in that situation—beneath the altar—it would not certainly be used for the ordinary purposes of the establishment.

Ever since reading, many years ago, Dr. Oliver's account of Temple Bruer and of his discoveries there, I have wished to test by excavations the truth (or otherwise) of his remarkable story. The dreadful vaults, the mysterious arched passages, the burnt skeletons and other weird finds, were an attraction that could not be withstood; let alone the interest attaching to so rare a feature as a round church with the singular adjuncts shown on the plan.

Only a few months ago chance brought about what had long seemed beyond reach. Happening to mention to Captain Reeve of Leadenham, who called to see me about a barrow in his park, my long-standing interest in Temple Bruer, I found in him so sympathetic an ally that he not only got the necessary per-

^a *A selection of Papers relative to the County of Lincoln. Read before the Lincolnshire Topographical Society, 1841, 1842 (Lincoln, 1843), 67-86.*

^b *Op. cit.* 77, note.

mission to excavate, as well as a subscription from the owner, the Earl of Londesborough, but himself raised a fund, to which he likewise contributed, for carrying on the work. The tenant of Temple Bruer, Mr. Frank Godson, having also most kindly assented to the excavations, work was started on the 13th April last by Captain Reeve, Mr. W. V. R. Fane of Fulbeck (High Sheriff of Lincs.), and myself, with the aid of eight men.

Of the ancient buildings of the Temple there now remain only a small tower, which is fortunately standing to its full height, and a long chamber, perhaps the hall, to the south of it, incorporated in the modern farmhouse.* When Buck made his drawing in 1726 there extended westwards from the tower an arcade of two bays joining on to the outer wall of the round part of the church, the southern half of which was then standing. (See Plate XIX.) In this were two more arches like those next the tower, and two large pointed window-openings. The head of a third window is shown over the arches, and all along the wall are the springers of the vaulting of the circular aisle.

Of these interesting remains everything but the tower has long been swept away.

The site of the round nave is now an open yard with workshops and stabling to the west, a coalhouse to the south, and a cart road on the north. To the east was, until a few days ago, a modern rubble wall about 5 feet high, running north and south, beyond which is an enclosed grass plat wherein stands the now detached tower.

Our operations were begun on the site of the round nave, and soon disclosed two concentric lines of walling and the foundations of the western porch, but the plinths and four feet of walling which were discovered by Dr. Oliver in 1833 had all been removed, and nothing but the bare foundations was left. The inner ring was 5 feet broad, with an internal diameter of $22\frac{1}{2}$ feet, and evidently served as a sleeper wall to the eight pillars mentioned by Dr. Oliver, but of his bases not a fragment remained. The outer ring was $50\frac{1}{2}$ feet in diameter within and $4\frac{1}{2}$ feet broad, which is amply sufficient to carry an outer wall with pilaster buttresses, such as it no doubt had. Of the porch, which seems to have been a later addition, only the foundations of the side walls were left and the mortar bed of the floor. Both in the middle part and in the encircling aisle trenches were cut in search of Dr. Oliver's passages, but in each case nothing was found but solid rock, about 2 feet from the present surface. Just within the place of the west doorway was a disturbed human skeleton.

* The relative positions of the church and other buildings are marked in solid black on Plate xxi.

Operations were next extended to the area north of the tower, where Dr. Oliver shows his chief passage, with a branch running off northwards. Our excavations revealed something quite different. We found about 10 feet from the tower a massive foundation running east and west, which was eventually traced up to the round nave, and outside it another foundation of a second tower. Since it was clear from the existing tower that a narrow chancel or quire had extended past it, search was made beyond for its eastern termination, but except for some thin cross walls that could not have belonged to it our first essay was unsuccessful. The excavations were next continued westwards of the standing tower and soon revealed the base of a wall $5\frac{1}{2}$ feet thick, with an opening through its western end close up to the modern wall traversing the site. Another excavation had meanwhile been made westwards along the inner side of the opposite foundation. This disclosed in one place the jamb of a window, which from its depth could only have lighted a crypt, and it now became possible to suggest that the assumed curved passage in Dr. Oliver's plan in the eastern part of the circular aisle was actually the way down into it. The northern arm was accordingly sought for, and found to be a sloping way cut in the rock and leading down to a solid floor, also of rock, about 6 feet below the present level. This floor was nearly in the middle line of the church, and had on the west side a face of the rock, and on the east part of a wall of masonry with an opening through the middle.

These investigations, with others that were being carried on elsewhere, brought us to the eve of Good Friday, and the suspension of the work until Easter week.

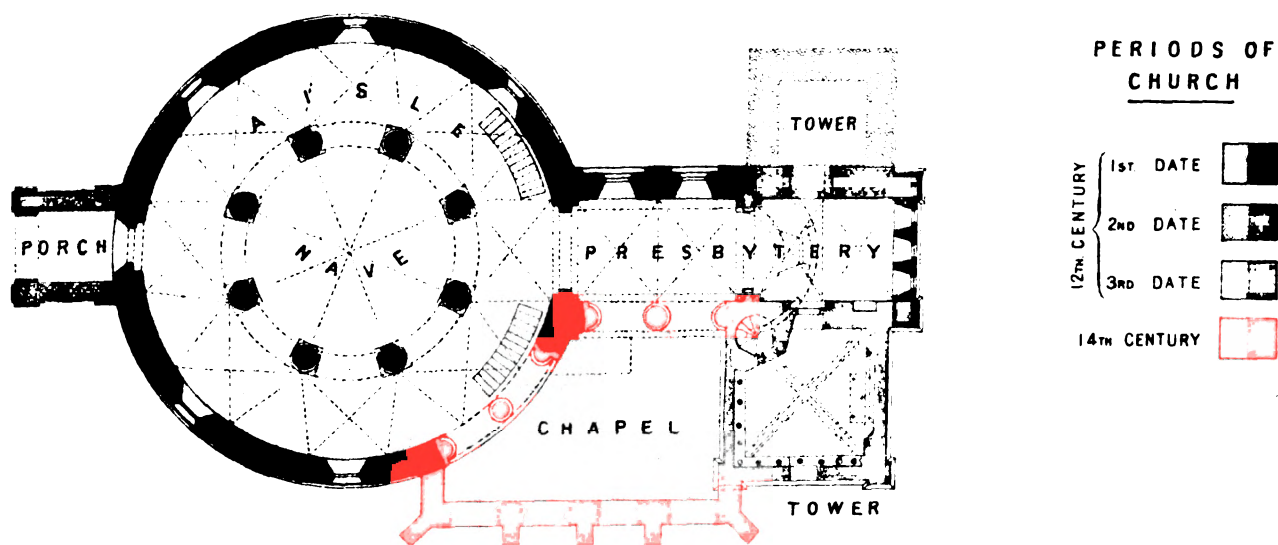
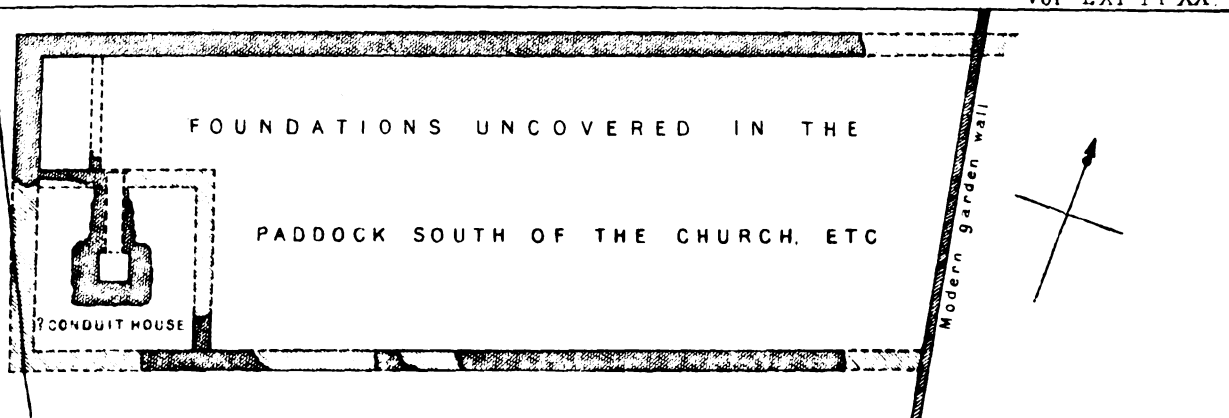
When operations were resumed on Easter Monday the first thing was to clear the site of the quire of stones and deposited rubbish and continue the examination of the crypt by working along its northern wall.

Starting from the window jamb, we came, about 7 feet to the east, to a rough opening blocked with masonry. This proved to be a doorway, but only part of the east jamb remained, the other having been chopped away to fit in the blocking. Just beyond it was a short return of the wall, and then the beginning of the curve of an apse. Owing to the weak condition of the north-west corner of the tower, which stands upon the apse wall, it was not thought advisable to go too near it, but sufficient of the apse was cleared to reveal the impost or stringcourse from which the vaulting sprang, and to open out the base of the window, which also rose from it. The window aperture was originally about 15 inches wide, but had been enlarged by cutting back the south side to 1 foot $10\frac{1}{2}$ inches; the splayed opening to the crypt was 2 feet $7\frac{1}{2}$ inches wide. The apse itself was $9\frac{1}{2}$ feet wide,

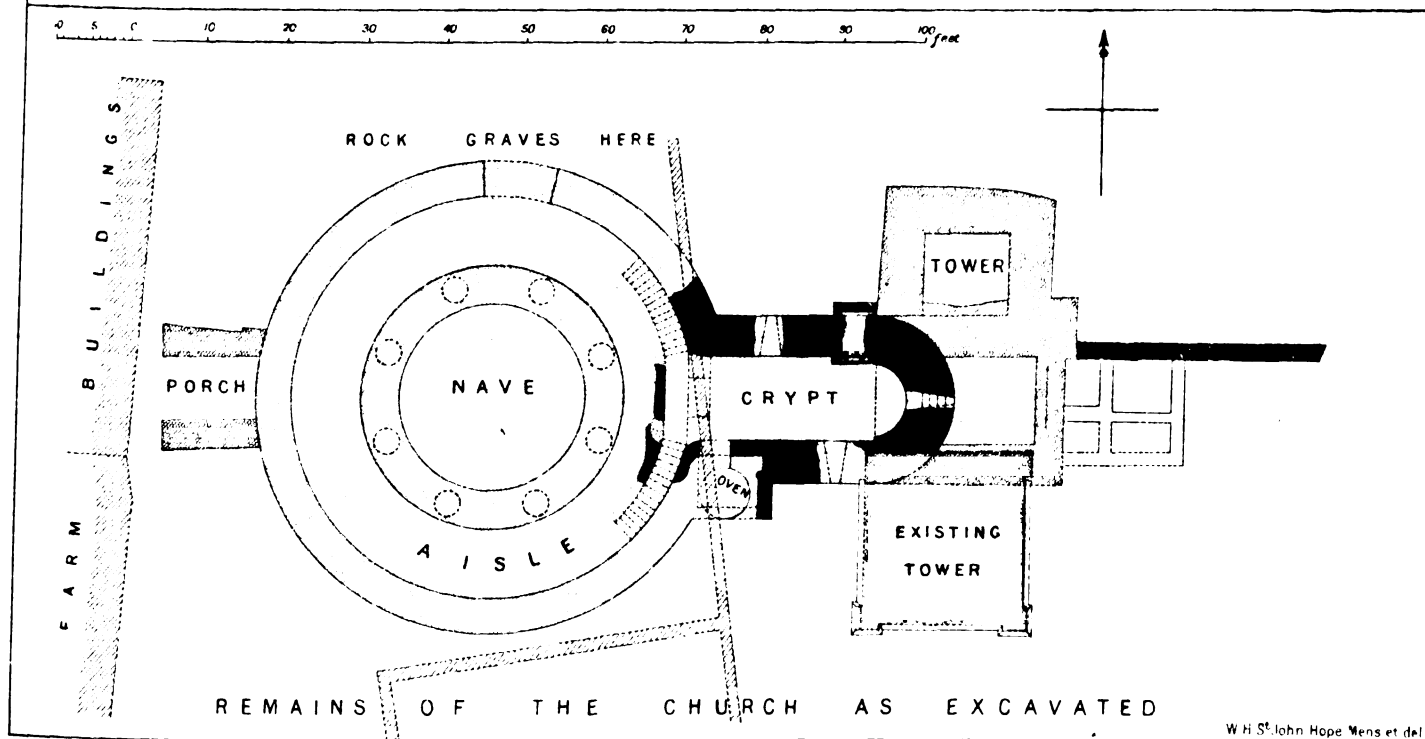
and its ashlar wall was 4 feet 8 inches high from the rocky floor to the impost, which was $5\frac{1}{2}$ inches deep, and square above and chamfered below. This gives a total height of 9 feet $10\frac{1}{2}$ inches for the apse vault, but this remained only in part for about 18 inches above the springing. The main vault of the crypt had entirely gone, but must have been at least 6 inches higher than that of the apse. So far as could be tested there were no remains of an altar, and we were unable to see if any drain or other wall recess existed in the south wall. A trench cut later right across the crypt showed that the floor was solid rock.

Meanwhile, to suit the convenience of some workmen, the northern way down to the crypt had been filled up, but this made it possible to open out the southern way. Like the other, this was cut through the rock, but the walling at the foot of the steps had been removed, through the carrying down of the modern wall above to the rocky floor, so as to form the side of a modern saw-pit. All the steps down to the crypt had been removed, but their probable arrangement is suggested on the plan. (Plate XX.) On the other side of the wall the opening previously found in the south wall of the crypt was cleared as far as was consistent with safety, and found to be the entrance into a small rectangular chamber. Against the east side of it was the lower part of (apparently) the newel of a vice from above, but the steps had all been cut away to admit of a large circular oven, about $6\frac{1}{2}$ feet in diameter, being built in their place. The modern wall did not permit of the whole being uncovered, but the stone floor was about 4 feet above that of the crypt, from which the oven was worked, and the circular wall, which was also of stone, remained to a height of several courses. All the stonework was much reddened by fire. Owing to the large size of the oven it obtruded beyond the south side of the chamber, which had been cut away for it. There was nothing to indicate the age of the oven, and it is difficult to suggest why it was placed in such a position.

There can, I think, be little doubt that Dr. Oliver must have opened up part of the reddened stonework, and it is possible that some human remains had fallen or been thrown on to the floor of the oven at the time of some general destruction. But the passage which he shows here as leading to a chamber with an immured skeleton certainly had no existence, for the oven floor was laid upon sloping rock, and outside it to the south the rock comes nearly up to the present surface over quite a considerable area. As Dr. Oliver does not describe his dreadful chamber, but merely says one was found, he was probably putting on record something that had been told him, which his horror of the Templars and all their works caused him to imagine a reality.



CONJECTURAL RESTORATION OF PLAN OF CHURCH, WITH THE EXISTING TOWER.



TEMPLE BRUER, LINCOLNSHIRE. PLAN OF CHURCH, ETC.

With regard to the chamber in which the oven was built I noticed that the top stone of its eastern side was worn on the inner edge as if it had once been a step. If so, the chamber was perhaps originally a porch with winding steps down into the crypt, for convenience of entry from the domestic buildings to the south. It may also have contained steps continuing upwards to the upper walls and roofs.

Inasmuch as the apse of the crypt, and therefore of the apse of the original presbytery, was only partly overlapped by the standing tower, the search was next resumed for the eastward limit of the extended presbytery indicated by the evidence on the tower itself. We had not far to seek, since the following eastwards of the northern line soon brought us to a cross foundation 4 feet thick immediately east of the tower. Extending eastwards from the north end of it was the base of a wall of the same date, but only 25 inches broad, apparently a boundary of something.

As no other lines of walling could be found it was deemed only fair to Dr. Oliver's memory to clear up the mystery of his passages. Sinkings to the west and within the foundations of the north tower disclosed nothing but undisturbed ground, and this was also the case alongside the wall running eastwards. We likewise dug in front of the tower doorway, where Dr. Oliver's supposed blocking was visible, but without result; while an excavation within the tower showed not only that it never had a subvault, but that we were the first disturbers of the filling-in of its builders.

Now it is quite clear from his not noticing the apse wall, although it is actually only just under ground, that Dr. Oliver's investigations were of a very superficial character. He evidently found the descending ways into the crypt, the opening into it from them, and its side walls, which enabled him to assert that his passages were $7\frac{1}{2}$ feet high. But he did not dig to any depth in the eastern half of the crypt or he could not have failed to find the apse, which has certainly no passage through it. His men must, however, have cut through the upper part of its wall and continued their trench eastwards alongside the foundations which we have likewise bared, and so the good Doctor concluded that his passage extended in that direction. His blocked opening under the tower also clears itself satisfactorily, since the masonry of it is actually the foundation of the extension of the presbytery, built up, as usual, with a straight joint against the apse wall, as my plan shows. (Plate XX.)

The existence of Dr. Oliver's passages has always seemed so improbable and unnecessary that I felt sure we had only to re-examine his evidence to find it capable of some quite simple explanation, and I have now given you

the result. But his accounts have twice appeared in print without being challenged, and even the late Bishop Trollope was content to explain them as "probably cellars."^a From henceforth it is to be hoped we shall hear no more of them.

It is now time to consider the practical outcome of the recent investigations and the facts deducible from them.

In the first place we have been able to add another Norman crypt to the list of those already known, and in the next place to recover the original plan of an English church of the Knights Templars. We have of course only its under parts, but there is little difficulty from these in reconstructing on paper the probable disposition of the upper works, and this, with the help of Dr. Oliver's recorded dimensions and Buck's engraving, I have ventured to attempt. (Plate XX.) The round nave was about 26 feet in diameter and had a circular arcade of eight bays, which no doubt carried a triforium and clerestory and perhaps a belfry stage above. The encircling aisle was some $9\frac{1}{2}$ feet wide and lighted originally by three windows on the north and as many on the south. Buck shows these windows as late-looking lancets, and they were perhaps insertions in place of smaller windows of mid-Norman date. The springers shown by Buck indicate, if he may be trusted, that the vaulting cells were quadripartite in each bay, with a triangular compartment between. This is inherently not improbable, and the same arrangement may be seen in the present Temple church in London. The nave had certainly a western doorway, covered by a later porch, and on the east an arch into the apsidal presbytery. Right and left of this, against the aisle wall, were the descending ways into the crypt. The latter had a window and a doorway in the north wall, another window on the east, and probably a third on the south, as well as the entry from the suggested porch. The walls were plastered, and the whole covered by a barrel vault. The object of the north doorway is obscure, but it certainly existed from the first.

The apsidal presbytery was of only two bays, with the apse, and its total interior length but 27 feet, while its width could not have exceeded 13 feet. It probably had an east window, with two others on the north and one on the south, supposing the crypt porch was carried up as a vice. Of its arrangements nothing can be said, but there could not have been room for much beyond the altar and its adjuncts. This lack of room evidently led, not long after the completion of the church, to the removal of the apse and the lengthening of the eastern arm to four bays, or just double its former size. The new presbytery was square-ended, and

^a *Associated Societies' Reports and Papers*, iv. (1857-8), 138.

had on the north a contemporary rectangular structure, which from the massiveness of its foundations seems to have been a tower; this perhaps had a turret outside its south-east corner. In the absence of any other remains of it, it is useless to speculate as to the character or purpose of this tower.

During the concluding years of the twelfth or opening years of the thirteenth century the south side of the extension of the presbytery was taken down, and a second tower built on its line to balance the older tower on the north. The reason for this is as obscure as the building of its fellow, but owing to the preservation of the second tower it is possible to say more about it.

It was slightly larger than the other, and owing to the same fall of the ground from west to east which necessitated the building of the crypt, its floor is raised 5 feet above the ground to the level of the presbytery floor. It has already been stated that it has no subvault. The entrance is on the north by a round-headed doorway with segmental tympanum and reararch. It is of two chamfered orders, the outer being carried originally by detached jamb shafts. Internally there is a length of plain wall east of the doorway, but west of it the area is encroached upon by a vice to the upper floors and roof. The east wall has a broad and shallow recess for an altar, flanked by shafts and surmounted by a bold roll moulding. Over this in a second segmental recess is a pointed window, now blocked. The inner edge of the altar slab is embedded in the wall and shows that it was 6 feet long, 6 inches thick, and with its top 3 feet 7 inches from the altar platform. Under the stringcourse above the altar is a series of holes for wooden plugs, probably for hooks from which to hang the upper frontal. Along the south wall was a recessed arcade of six pointed arches with somewhat elaborate mouldings, carried originally by detached shafts with capitals carved with leafwork, now sadly damaged. The first arch has its sill 3 feet from the old floor and contains a circular drain. The sill of the second arch is 15 inches from the floor and formed a *sedile*. The next two arches have been cut away: first on account of an inserted late fourteenth-century window of two lights which takes the place above of the original simple window; and secondly, through the window sill being chopped down to the floor to make a modern doorway. All this is now blocked again. Beyond are two more arches, which, with a return range of four and a half others along the west side, form a continuous series of seats. The stringcourse on the east wall is continued along the south and west walls, and has over it on the latter side an original window. The area measures 15 feet by 16 feet and is covered by a plain quadripartite vault with simple chamfered ribs springing from corbels in the

corners, and with moulded wall ribs. At the intersection of the cross ribs is an original iron ring from which to hang a lamp. The walls throughout are of excellent coursed ashlar, apparently from the Ancaster beds. The vice has a square-headed doorway within a pointed panel, and leads to a second chamber with plastered walls, lighted by round-headed windows on the east, south, and west. It was originally vaulted like the ground story, but the vault has been taken down. Over it was a third chamber of no great height, lighted by square-headed loops, apparently on all four sides. The vice continued above this to the roof, which was probably a low pyramid surrounded by a simple parapet. A fragment of the latter remains at the south-west corner.

The uses to which this tower was put are more or less matter for speculation, especially since we know nothing as to its destroyed fellow, but it certainly was neither a belfry nor a watch tower. Presumably the north tower contained the vestry, but the ground story of that under notice may also have been put to the same use, though it is difficult to see then why it should have been so elaborately arcaded. Perhaps it also served as a chapter-house, for which its privacy excellently fitted it. The floor above would have made an efficient muniment chamber, and the top story a very safe treasury.

Externally the tower, which is 54 feet high, has along the three disengaged sides a bold plinth with a stringcourse for its uppermost member. The first of its three stages is divided midway by a second roll stringcourse, over which are the simple windows of the ground story. Above these windows is a third stringcourse, on which stand the second story windows, and higher up a fourth, over which are the loops of the top story. (Fig. 4.)

At each corner of the tower is a pair of pilaster buttresses, but those on the north-west and north-east, owing to the abutment of the presbytery, rise, not from the ground, but from ornate corbels above the line of the presbytery roof. Just beneath the parapet is a curiously wrought cornice of like work to these corbels.

It will be noticed that the two principal tiers of windows reverse the usual order found in transitional work, the upper being rounded and the lower pointed.

The north side of the tower exhibits some interesting evidence of the architectural features of the presbytery. (Fig. 5.) On the extreme west there is an attached respond, 14 feet 10 inches high, consisting of a compound shaft between two smaller ones, with moulded bases and capitals. This carried a plain chamfered arch across the presbytery and to the east the diagonal rib of a bay of

the vaulting. About 9 feet east of the respond, and on the same level as its capital, is a corbel carrying another group of springers, and along the wall above



Fig. 4. Temple Bruer. The tower from the south-east.
(From a photograph by G. Hadley & Son of Lincoln.)

is a continuous row of springing blocks for a barrel vault. This, if semicircular, as it apparently was, would give a height for the presbytery of about 21 feet, and in all probability it was a continuation of an existing barrel vault over the first

presbytery. The height of the presbytery wall is shown by the rake of the roof on the tower to have been the same as that of the respond, and this was also the



Fig. 5. Temple Bruer. North face of the tower.
(From a photograph by G. Hadley & Son of Lincoln.)

height of the outer wall of the round nave, and approximately of the nave arcade. One other feature in the north wall of the tower must be noticed, the mutilated recess beyond the doorway for a double drain for the high altar.

On the west face of the tower, in the upper half, is the deeply cut chase for the flashing of a steeply pitched roof. (Fig. 6.) It is not disposed symmetrically, and



Fig. 6. Temple Bruer. West face of the tower.
(From a photograph by G. Hadley & Son of Lincoln.)

so cuts partly across the round-headed window. Below the window is the gently sloping line of a second but shallower chase, evidently of the roof of the same building after it had been lowered from its original high pitch. A perpendicular line

from the point of the latter shows that the building to which it belonged was 21 feet wide, and that its south wall must therefore have stood about 2 feet south of the tower. But excavation on its line showed that all traces of it have gone, for close to the surface we found but solid rock. The north end of the west face of the tower is much patched as to its lower portion, partly by the blocking of a forced opening into the vice, and partly for a reason for which we must refer to Buck's engraving. This shows on the old southern line of the presbytery two lofty moulded arches, carried by a massive circular pillar, and responds with moulded capitals. In the outer wall of the round part are two similar arches. Nothing of these remains now, but they evidently opened into the large added chapel whose roof lines are so plainly marked on the tower. It is, of course, difficult to fix a date for them even approximately, but they may belong to an enlargement of the church after its transfer to the Knights Hospitallers, owing to the cramped dimensions of the narrow presbytery. The new chapel was not less than 34 feet long to the southward, and it was probably lighted by four large windows. There are no traces of its altar against the tower wall, but all the stringcourses on this side have been carefully cut away, and there are some plug holes in the lower part that are suggestive of panelling.

It is most unfortunate that so little should be left of the architectural detail of this very remarkable church, but diligent search all round the farm and its buildings failed to bring to light more than two or three patterns of mouldings. These were simple Norman work of about the middle of the twelfth century, and apparently from the round nave. One showed a bold roll flanked by zig-zags; and another, which had a like roll with a flat member on each side, was apparently the voussoir of a vaulting rib.

One other find may be mentioned. It was noticed by Mr. Fane that the modern brick floor of the tower was largely patched with worked stones. These were accordingly taken up and found to consist chiefly of sections of the courses of a round Norman pillar at least 3 feet in diameter, probably of the nave arcade. Several Norman corbels were also unearched.

It will be remembered that Dr. Oliver mentions an apparent chapel and altar on the north of the round nave. As the ground on this side is open trenches were cut in search of it, but nothing came to light save the solid rock, and a number of graves cut in it. These were part of a series found by Dr. Oliver, which he thus describes in his *Sleaford* volume :^a

The church-yard or cemetery was on the north side of the west porch, and the graves were placed in lines round the outside of the building. They were very numerous, and

^a *Op. cit.* 29.

those which were unavoidably opened by the process of excavation, contained skeletons, but no relics of coffins. The bottom of the grave was the surface of the lime-stone rock, the sides were lined with flat stones taken from the neighbouring quarry, and the whole was covered down with a rough stone of greater dimensions. They were in fact legitimate kistvaens.

Those we met with were of the same character, and one which was opened contained the skeleton of a young child about 3 feet high. Other interments have been found by Mr. Godson, the present tenant, during levelling operations, on the south side of the tower and in the western end of the added chapel.

Owing to the way in which the immediate surroundings of the church west and south are encroached upon by stables and outbuildings it was impossible to extend our operations beyond the church itself in search of whatever structures may have adjoined it, or to follow the lines of those shown in Dr. Oliver's plan.

Mr. Godson having called our attention to a low broad mound in the paddock south of his house, with his permission trenches were cut through it. These brought to light various lines of walls, which ultimately resolved themselves into a large enclosure $37\frac{1}{2}$ feet wide extending east and west for at least 120 feet. (Plate XX.) The west end was complete and contained in its southern angle a building some 22 feet square. In the middle of this was a pit, 3 feet 8 inches square, with sides remaining to a height of about $2\frac{1}{2}$ feet, neatly built of thin stone roofing slates. Opening out of the north side was an arched tunnel or passage $10\frac{1}{2}$ feet long, 26 inches high, and the same in width, also built of slates. Both pit and passage were surrounded by a considerable thickness of rubble walling. At first sight the pit seemed to have been that of a garderobe, but from the way in which its passage opened by a chamfered stone arch into the large enclosure, and the central position of the pit, there can be little doubt that the arrangement formed a manhole beneath a conduit-house. In the north wall of the long enclosure the right hand jambs of two splayed recesses were found, probably of windows, since they showed no traces of fire. They were certainly not parts of doorways. This suggests that the enclosure was roofed, but its wide span would have necessitated two or at least one row of wooden posts to help carry the timbers. We were not able, however, to find any traces of such.

In Dr. Oliver's paper already referred to, he assumes that the remaining tower was a watch tower, with "the warder's station" on top; "we accordingly," he says,

find [the staircase] furnished with loop-holes at every gradation of the ascent, all of course pointing towards the only avenue by which the Temple was accessible from the Hermen Street, or High Dike, then the direct road from the Metropolis, and almost the only one which connected these parts with every district in England. This avenue, winding

its way through a beautiful valley, which was used as a tilting yard by the Knights, terminated at the entrance of the Temple premises; and this was carefully fortified with gate and portcullis. The place is still marked by two high mounds, called the Bar Gates, which contain the remains of the embattled towers, by which the entrance gate was flanked and protected, under the provisions of a Licence granted by King Edward I.^a

When writing the above, Dr. Oliver evidently overlooked the fact that the buildings west of and attached to the tower would effectually have shut out any view in that direction, but his remark about the Bar Gates demands some notice.

There is no evidence that the valley west of the buildings was used as a tilting-yard, and the two high mounds are no longer to be seen, but the royal licence to crenellate of 1306, as noted above, clearly points to a pre-existing walled precinct. The text of the licence is as follows:

Pro Magistro Milicie Templi in Anglia:

Rex omnibus ballivis etc. ad quos etc. salutem. Sciatis quod de gracia nostra speciali concessimus et licenciam dedimus pro nobis et heredibus nostris quantum in nobis est dilectis nobis in Christo Magistro et fratribus Milicie Templi in Anglia quod ipsi apud Manerium suum de la Bruere in Comitatu Linc. quendam magnam portam et fortem facere et kernellare ut portam illam sic factam et kernellatam tam tenere possint sibi et successoribus suis imperpetuum sine occasione vel impedimento etc. ut supra. In cujus etc. Teste Rege apud Heynessalgh . x . die Septembris per breve de privato sigillo.^b

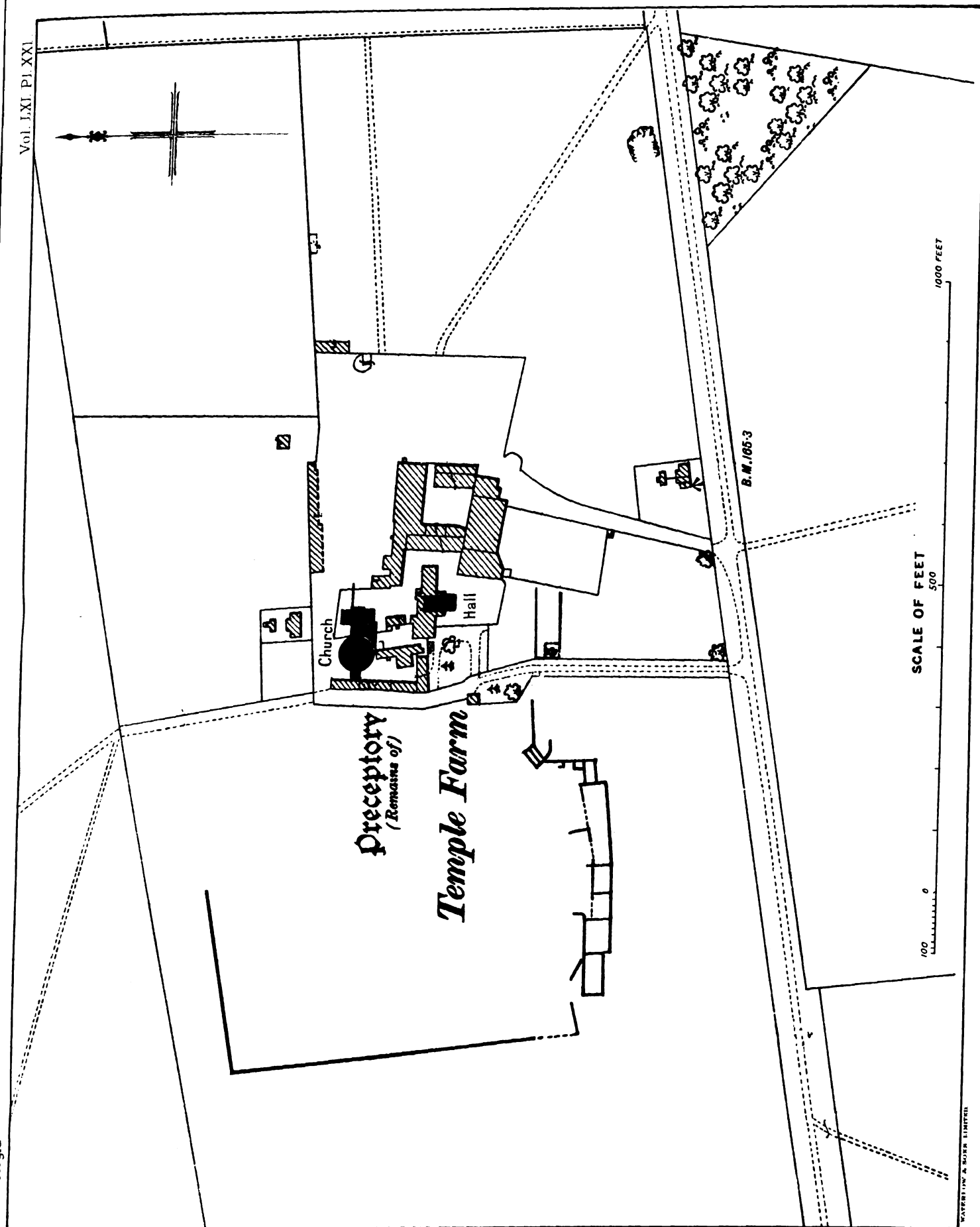
There are now no remains above ground of the "great and strong gate" or of the wall in which it was set, but Mr. Godson was able to point out the line of the foundation of a wall which was constantly struck during ploughing operations. This was accordingly laid bare in places and followed up, and as will be seen from the accompanying plan (Plate XXI.) we have been able to lay down partly the limits of an extensive precinct, but without finding any definite traces of the gate-house. Captain Reeve and Mr. Fane have also worked out the lines of certain buildings against the south wall, which probably belonged to ranges of stabling, etc.

Further researches might possibly bring to light the foundations of other buildings within the precinct, but owing to the way in which the church is surrounded by modern structures there is little hope of finding much of interest.

In conclusion, our thanks are due to the Earl of Londesborough for so kindly permitting as well as assisting the excavations, to divers other kind friends who also contributed to the work, and to Mr. Frank Godson for his cordial co-operation and much hospitality.

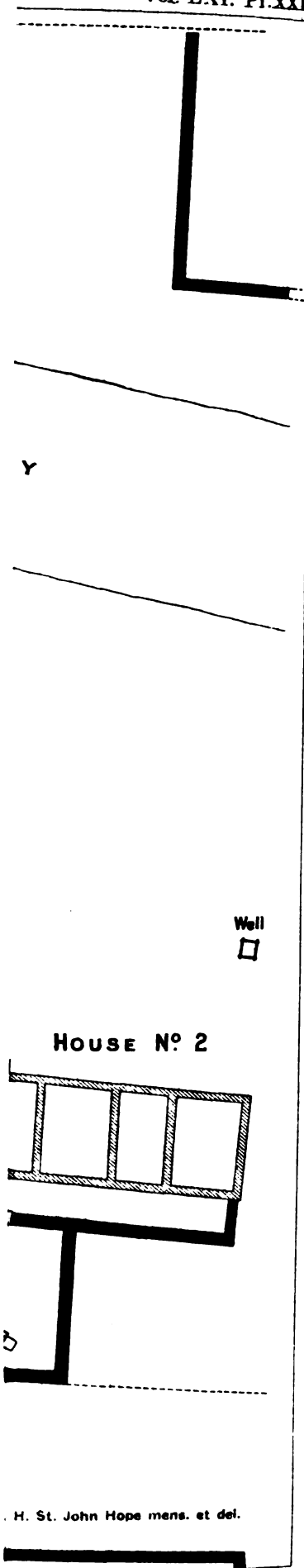
^a *A Selection of Papers relative to the County of Lincoln* (Lincolnshire Topographical Society, Lincoln, 1843), 74, 75.

^b Patent Roll, 34 Edward I. m. 9.



PLAN OF THE SITE OF TEMPLE BRUER, SHOWING RECENT DISCOVERIES. (Based on the 2500 O.S. Map)

Published by the Society of Antiquaries of London, 1908



H. St. John Hope mens. et del.

L. P. II

VI.—*Excavations on the site of the Roman city at Silchester, Hants, in 1907.*

By W. H. ST. JOHN HOPE, Esq., M.A.

Read 18th June, 1908.

I HAVE the honour of submitting to the Society, on behalf of my colleagues of the Executive Committee of the Silchester Excavation Fund, the report of our investigations during the six months from the 17th May to 27th November of last year (1907), being the eighteenth successive season of our exploration of the site.

In pursuance of the plan foreshadowed in last year's report, our investigations for 1907 were resumed in the grass field which occupies a considerable area near the middle of the Roman site.

The greater part of this field had been explored in sections during the four preceding seasons, but there still remains unexamined a piece in the south-west corner, and another in the middle of its northern edge. A small section east of the latter had been excavated in 1903, and apparently formed part of an *insula* (XXVIII.) extending westwards into the unexplored piece. It was accordingly decided to begin with this. The northern margin of the *insula* is on the further side of the modern roadway which crosses the town in an oblique direction from east to west, and when explored, with *Insula* XXVII., in 1901, showed an irregular line of walling in which were set the foundations of (apparently) the gateway to some important building. The part excavated in 1903 disclosed the lines of at least two buildings, House No. 1 and House No. 2 (see plan, Plate XXII.), but cut off from the rest of the *insula* westwards by a long wall which was traced northwards as far as the modern roadway.

The unexplored area beyond this wall proved very disappointing. No traces whatever of buildings were found in its southern half, but further north were various lines of gravel foundation and occasional bits of walling that had evidently formed part of the house to which the gateway belonged. The remnants of this building (House No. 3) were so slight that it is difficult to say whether it was ever anything more than a small house of the corridor type, standing east and west with a corridor to the south.

West of it along the street separating the *insula* from *Insula V.* was a range, apparently of shops (Block I.), which extended southwards for 85 feet from the



Fig. 1. Part of a drain in *Insula XXVIII.*
(From a photograph by Mr. J. Challenor Smith.)

north-west corner of the *insula*, but the upper end is overlaid by the modern roadway and could not be fully examined. The remainder consisted of three rooms, each 13 feet wide but of differing lengths, two being about 11 feet long and the southernmost twice as much. Nothing was found in or about the block, and the only noticeable feature was the considerable amount of brick used in the construction of the eastern side. Any floors or pavements had been completely destroyed.

Southward of Block I., but separated by an interval of 3 feet, was part of

another building (Block II.) of somewhat later date. It consisted of a room, or perhaps a yard, $28\frac{1}{2}$ feet long, the sides of which were not quite parallel, with a portion some 5 feet wide cut off from its northern end by a thin cross wall. The eastern wall was composed almost wholly of brick and continued northward beyond the extent of the building to form one side of a remarkable brick drain. This drain began somewhere under the modern roadway, and after running southwards from some yards curves round and attaches itself to the east wall of Block I. (Fig. 1.) Just above this point there is a sort of shelf formed in its side, but for what purpose is uncertain. (Fig. 2.) A little further north, just before the



Fig. 2. Part of a drain in *Insula XXVIII*.
(From a photograph by Mr. J. Challenor Smith.)

drain begins to curve, it seems to have passed originally through a brick arch set in a thin wall, but the remains of the wall have been destroyed for the hedge and only the sill of the arch was left. Where the drain joins Block I. it returns sharply to its former course southwards, and so extends in a straight line for 40 feet, passing towards the end through the north wall of Block II. and the division wall within it. Just beyond this the drain returns westwards at right angles to its former course for 10 feet, and then ends with an oblique return towards a large sump or pit. For the whole of its course the drain is constructed

in brick, and in several places with bricks of a pattern not hitherto noticed at *Calleva*. These are $17\frac{1}{2}$ inches long by $6\frac{1}{4}$ inches wide and of the usual 2 inches in thickness. The drain was from 9 inches to a foot in depth and was originally roofed throughout with tiles. Most of these were $17\frac{1}{2}$ inches long by $12\frac{1}{2}$ inches wide, and had one end bevelled. The drain varied somewhat in width. Its upper part gradually narrowed from 16 inches to a foot, but at the turn by Block I. it was contracted to 6 inches. It then widens out again by degrees to 16 inches until it reaches Block II., within which the rest of its course was about a foot wide.

Nothing was found in or about the drain to indicate for what purpose it had been made, and it is unfortunate that its starting point is covered by the roadway.

At the point where the drain joins Block I. its hitherto irregularly built sides become regular walls. That on the west was 19 inches thick, and constructed wholly of brick. It extended southwards for 84 feet, forming in its course part of the room or yard already noted, and then returned eastwards for 45 feet.* From its eastern end a flint rubble wall ran northwards for at least as far as the corresponding brick wall to the west, but beyond that it has been destroyed. The two walls were not quite parallel.

Towards its south end the longer brick wall crossed the southern wall of the room or yard in which the drain ends. This southern wall was continued eastwards for some distance and had on its north side an enclosure or yard (about $31\frac{1}{2}$ feet by 26 feet) within the larger one already mentioned (which was about 42 feet wide). This evidently overlies an enclosure of about the same width (26 feet) that formed part of the destroyed House No. 3, traces of which exist to the east, with apparently the beginning of a southern corridor.

The part of *Insula* XXVIII. south of the remains just described was apparently garden ground that belonged originally to the destroyed house. The trenches revealed the existence of two square wood-lined wells of the usual construction, and a number of pits, one being oblong in plan.

It will be noticed that though *Insula* XXVIII. was bounded by streets on the north, west, and south, it had no defined boundary on the east.

The unexplored section in the south-west corner of the grass-field had been known, from excavations of previous years, to form part of an *insula* which we have numbered XXXV., bounded on all four sides by streets, which separated it

* Towards the east, on the south side, is apparently a latrine.

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W. H. St. John Hope mens. et del.

on the north, west, and south from *Insulæ* VI. VII. and VIII. respectively, and on the east from the *Insula* (XXXIII.) which contained the baths. It was oblong in plan, and measured about 375 feet from north to south and 275 feet from east to west. (See plan, Plate XXIII.)

The north-east quarter of the *insula* was occupied by a small house (No. 1) which extended partly eastwards along the street, and partly southwards into the interior of the *insula*.^a The northern range had a frontage to the street of 80 feet, and consisted of a row of chambers (1—5) of various sizes with a corridor or pentise (6) on the south, and perhaps another room (7) in the angle formed by the two ranges of the house. The wall between the two westernmost chambers (1—2), is thickened out in a curious way where it abuts upon the street wall, and from some remnants of tiling found at this point may, at any rate in room 1, have had a fireplace set in it. Traces of such fireplaces have been found several times at *Calleva*, but they are not common in Romano-British dwellings generally.

The room (4) at the eastern end of the range, and the small one (5) south of it, had each a brick archway in its south wall, both in the same line, and there was a third, also in line with them, in the outer wall of the corridor (6). These three openings seem to have been connected with a series of as many hypocausts, but all other traces of them had been completely destroyed. Just to the east of the line of archways, but at a somewhat lower level, was the foundation of a wall of earlier date which was traced southwards to beyond the corridor and then for a short distance westwards. This wall for a considerable portion of its length was found to rest upon a regular series of wooden piles arranged in three parallel rows. Further examination also showed that the same feature existed under the east and west walls of room 4, as well as beneath that portion of the street wall which formed its north side, and the continuation of the same wall eastwards. These piles have been carefully examined by our colleague Mr. A. H. Lyell, whose notes upon them are given below.

The need for any piling at all was no doubt due to the swampy character of the southern margin of the grass field which has been referred to in former reports.

The southern range of chambers belonging to House No. 1 (rooms 8, 9, 10) is apparently a somewhat later addition to the original simple block of the house. It includes a large middle division with smaller chambers north and south of it,

^a The dimensions of the rooms in feet are approximately as follows: 1, $17\frac{1}{2}$ by $17\frac{1}{2}$; 2, $17\frac{1}{2}$ by $16\frac{1}{2}$; 3, $17\frac{1}{2}$ by $25\frac{1}{2}$; 4, $10\frac{1}{2}$ by $11\frac{3}{4}$; 5, $5\frac{1}{2}$ by $6\frac{1}{2}$; 8, $12\frac{1}{2}$ by 20; 9, 29 by $20\frac{1}{4}$; 10, $12\frac{1}{2}$ by $19\frac{3}{4}$.

but none contained any traces of flooring, nor anything to indicate its possible use. A similar destruction of the pavement levels makes it equally impossible to say anything as to the destination of the various rooms of the body of the house.

Outside the house several curious features came to light. Just to the east of it was the wreck of a long hearth, flanked on either side by an apparent socket for a stout wooden post. A little to the south of the corridor, but not quite parallel with it, was found at a depth of 5 feet from grass level the remains of a large tank, 5 feet 3 inches wide and 11 feet long, formed of oak boarding attached to wooden uprights. The eastern end was partitioned off from the rest to form a compartment about 1 foot wide. Owing to the collapse of the sides and consequent falling in of the ground it was not possible to examine it fully.

Still further south was uncovered the red mosaic floor of a building (Block I.) about 15 feet square, which, from the absence of any traces of walling, must have been wholly a wooden structure. It seems to have stood in a yard laid with a pitching of gravel; several of the larger patches of this which remained here and there are shown on the plan. (Plate XXIII.)

For a considerable distance immediately south of House No. 1 nothing further was disclosed by our trenches beyond a fragment of walling about the middle of the *insula*. South of this was a wood-lined well, and a little to the south-west of it another mosaic floor. (Block II.) This measured $16\frac{1}{2}$ feet by $12\frac{1}{2}$ feet, and was of coarse red *tesserae*, but without any traces of a surrounding wall. It must therefore, like Block I., have belonged to a wooden building.

The eastern side of the *insula* seems to have been bounded only by a hedge or paling, but along the southern margin traces of a wall were disclosed when the adjoining *Insula VIII.* was excavated in 1893. Just within the *insula*, near its south-west angle, was uncovered a fragment (Block III.) of a building of massive construction. It stood east and west, and consisted of a main division 11 feet wide with walls 3 feet thick, and a narrower division to the south with thinner walls not parallel with the others. The abrupt breaking off of the walls towards the west is as difficult to account for as it is to suggest the use of the building.

A considerable section of the western side of *Insula XXXV.* is occupied by the foundations of a large house of the courtyard type (House No. 2) extending along and with its main frontage to the street. Despite its apparently regular plan, the differences in its construction suggest that the house was at first one of simple form, consisting of a row of chambers (1—6) fronting the street and a

corridor (7) behind, which returned eastwards (8) at its north end to give access to a large winter room (10) beyond.^a

Owing to the destruction of all the floors in the house by the plough it is somewhat difficult to suggest the possible uses of its divisions.^b But room 3 was perhaps the entrance hall, and the small chamber (4) which opens out of it may have been the *lararium*. The narrow division 2 could have contained the staircase to the upper story, or this may have been placed in division 6. The corridor 7 was $7\frac{1}{2}$ feet wide and its return eastwards was apparently marked by a partition, beyond which was the long passage (8) that led to the winter room (10). This passage was 9 feet wide and 47 feet long. On plan the passage seems to extend 16 feet further, but the extension was actually cut off from it by a wall and served as the stoking chamber of the hypocaust of the winter room. This room measured $22\frac{1}{2}$ feet by 24 feet, and was entered from the passage by a doorway at the west end of its north wall. The hypocaust was of the composite type, having a square middle chamber filled with rows of square brick *pilæ*, with narrow passages radiating therefrom to flues in the east, south, and west walls. The stokehole was at the north-east corner, and the chamber (9) from which it opens shows signs of reconstruction. In the hypocaust were found a number of curiously-fashioned three-sided tiles for constructing the pointed ends of some of the blocks separating the flue passages. Their longer sides are $14\frac{1}{2}$ inches, and the shorter $10\frac{1}{2}$ inches, but the points of the former have been cut square.

The first extension of the house seems to have been made by adding a group of several chambers (12—15) on the south, with a corridor (16) running eastwards from it, so as to form with the older portion three sides of a courtyard, which was closed in by a wall on the east.

The house was extended southward a second time by the addition of two more chambers (19—20) with a wall running eastwards to form, with a return northwards, a second courtyard. Outside this to the south was a row of three narrow rooms or outhouses (21—23). This symmetrical disposition of the building and its adjuncts was afterwards disturbed, first by the formation of a

^a The dimensions of the rooms, etc. in feet were approximately as follows: 1, $14\frac{1}{2}$ by $16\frac{1}{2}$; 2, $6\frac{1}{2}$ by $16\frac{1}{4}$; 3, 11 by 17; 4, $6\frac{1}{2}$ by $9\frac{3}{4}$; 5, $10\frac{1}{2}$ by 17; 6, $12\frac{3}{4}$ by $7\frac{1}{2}$; 7, $26\frac{1}{2}$ by $7\frac{1}{2}$; 8, 9 by 47; 9, 9 by 14; 10, $22\frac{1}{2}$ by 24; 11, $11\frac{3}{4}$ by 4; 12, $11\frac{1}{2}$ by 11; 13, $20\frac{1}{4}$ by $16\frac{3}{4}$; 14, 23 by $8\frac{1}{4}$; 15, 9 by 8; 16, $9\frac{3}{4}$ by 48; 17, 10 by $7\frac{1}{2}$; 19, $18\frac{1}{2}$ by 16; 20, 13 by $16\frac{1}{4}$; 21, 7 by $22\frac{3}{4}$; 22, 7 by 24; 23, 7 by 12; 24, $28\frac{1}{2}$ by $53\frac{1}{2}$; 25, $12\frac{1}{2}$ by $11\frac{1}{2}$; 26, 9 by $20\frac{1}{2}$.

^b In rooms 2 and 3, in each case against the north wall, was a socket, apparently for a wooden post, connected perhaps with some addition above.

large enclosure or courtyard (24) to the east, and secondly by the addition of a new entrance hall (25) and porter's lodge (26) at the north end of the house. The enclosure, it will be seen, for some obscure reason, is set obliquely to the main direction of the house, but parallel with the detached fragment of wall to the north-east of it.

Of the wells and pits in and about House No. 2 more will be said presently.

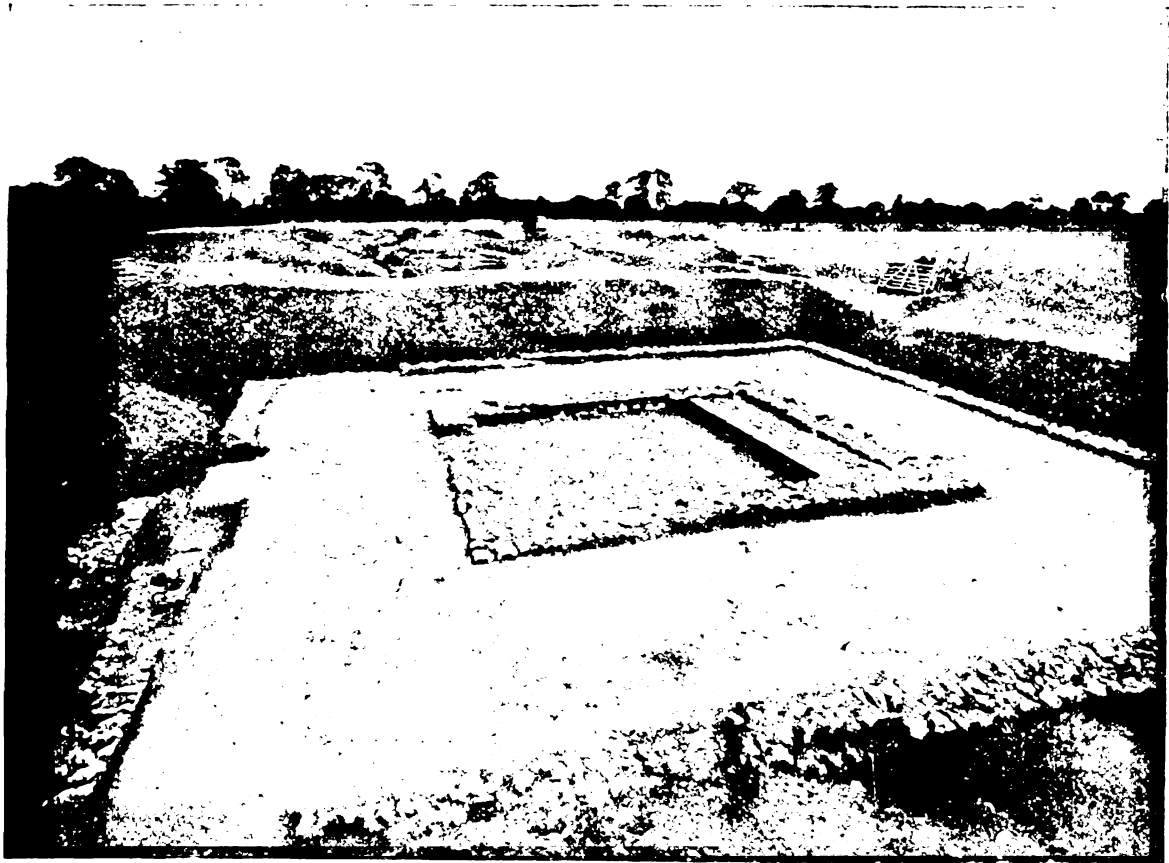
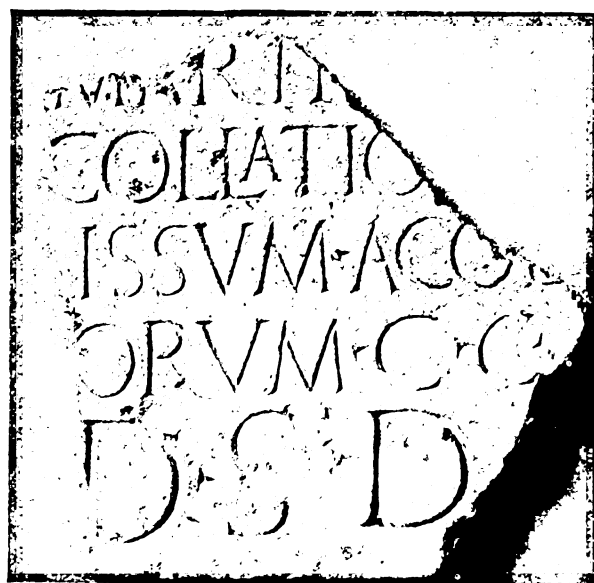
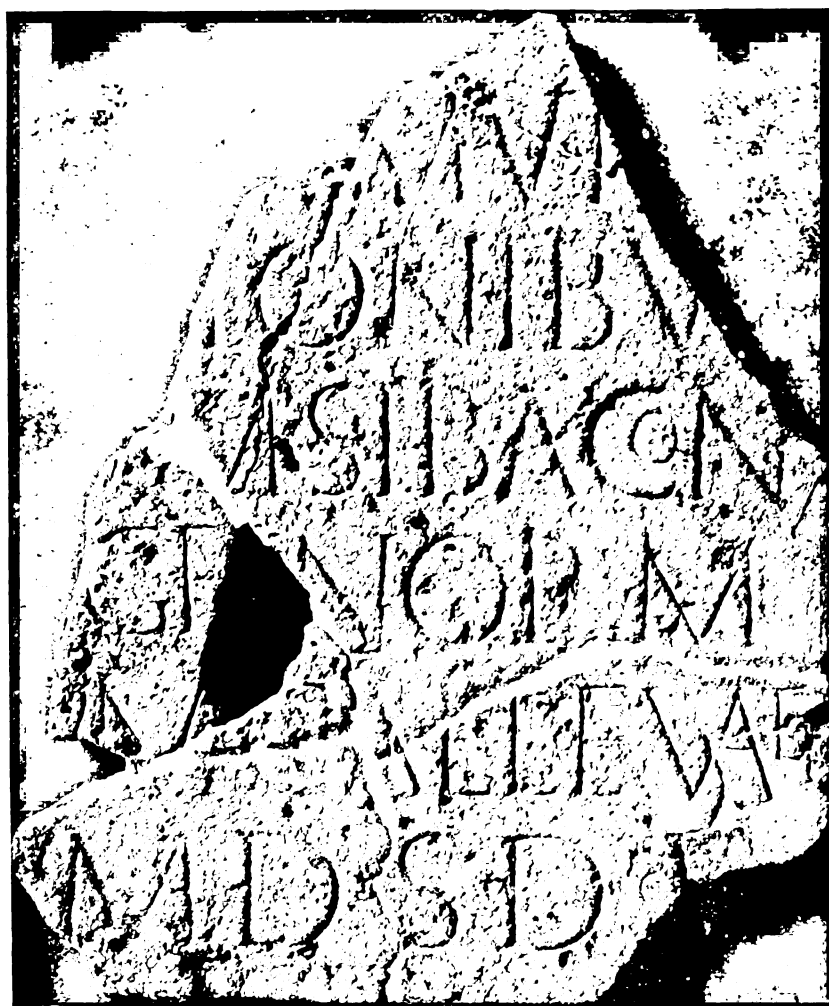


Fig. 3. Remains of a Temple found in *Insula XXXV*, looking south.
(From a photograph by Victor White & Co. of Reading.)

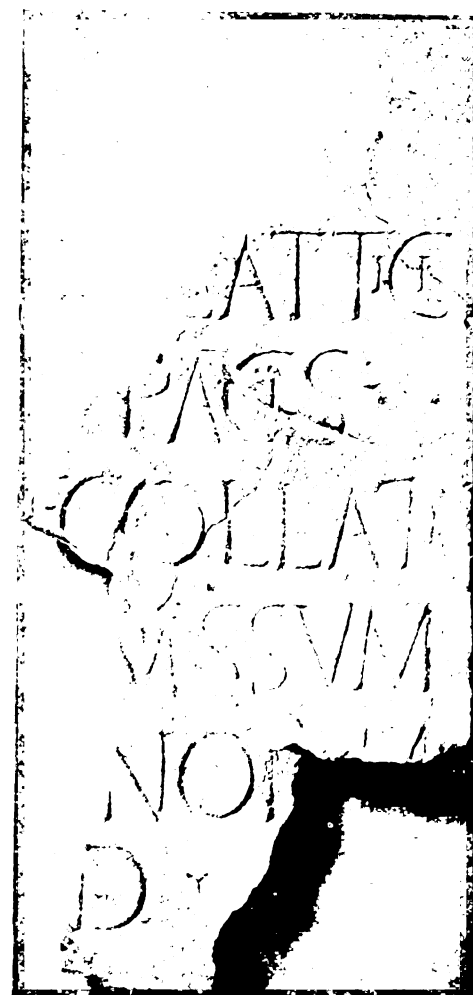
The area west of House No. 1 and north of House No. 2 was carefully trenched and found to contain one building only. (Fig. 3.) This is, however, a structure of quite exceptional interest, being actually a small square temple of the same type as the two in *Insula XXX*., partly beneath the parish churchyard, which were examined in 1890. Like them, it is not set square but at an angle with the street, its main axis being $13\frac{1}{2}$ degrees from true east and west. The building



2



1



3

From photographs by Mr. George Clinch.

PORTIONS OF THREE INSCRIBED MARBLE SLABS FOUND AT SILCHESTER. (About $\frac{1}{3}$ linear.)

Published by the Society of Antiquaries of London, 1908.

consisted of a low *podium* measuring outside 35 feet from north to south and $36\frac{1}{2}$ feet from east to west, with flint rubble walls 18 inches thick. In the middle of the east side was an opening 9 feet 10 inches wide, and in front of this a projecting foundation for the steps up to the temple. The *podium* still retains its pavement of coarse red tile *tesserae*, arranged as a broad passage 8 feet wide about the *cella*. The *cella* measures internally 12 feet by 14 feet, and is enclosed by flint rubble walls $22\frac{1}{2}$ inches thick. The entrance was on the east, but its width is uncertain, owing to the removal of all the stonework of the doorway. The floor has also been removed, and only its foundation of *opus signinum* remains in places. Extending right across the western end of the *cella* is the brick step or edging of a narrow platform, raised 6 inches above the floor. It is not quite parallel with the west wall, the width at the north end being 2 feet $9\frac{1}{2}$ inches and at the south 3 feet 1 inch.*

Both within and without the temple various interesting objects came to light.

From under the hedge which passes its eastern side were extracted two pieces of a Doric capital, part of another capital, much worn, and fragments of two small columns. The fragment of a capital, which had an abacus 18 inches square, could well have belonged to one of a pair of pillars that flanked the entrance, and the pieces of shafting may have formed part of a colonnade round the *podium*, but the pieces of the Doric capital must, from its diameter, have come from the adjacent *forum*.

Just outside the temple, leaning against its north wall, was found a small piece of an inscribed Purbeck marble slab, with the remains of five lines of finely cut lettering. (Plate XXIV. fig. 2.) From the rubbish within the *cella* a number of other Purbeck marble fragments were recovered which proved to form parts of two other inscriptions. One of these (Plate XXIV. fig. 3) was cut on a slab $14\frac{1}{2}$ inches high, with, probably, seven lines of lettering, but its width is uncertain. The other (Plate XXIV. fig. 1) was apparently 14 inches wide with remains of six lines of lettering, but its height is uncertain. As Professor Haverfield is kindly contributing some epigraphical notes on the inscriptions, further reference to them now is unnecessary, but it may be pointed out that the last named plainly contains the important word *CALLEVÆ*, which may safely be taken to set at rest any further speculation as to the name of the Romano-British town upon which we have so long been working.

* All these features are admirably shown in a beautiful model of the remains of the temple which has been made by our colleague, Mr. J. Challenor Smith, and is now deposited in the Reading Museum.

Besides the fragments of inscriptions there were also found in the *cella* a number of pieces of life-sized statuary, carved in coarse oolite, which had evidently been intentionally shattered. The pieces, so far as they can be made out, consist of part of a bearded chin, a left hand grasping the end of a *cornucopiae*, parts of two legs with the fronts covered with greaves ornamented with lions' heads, and apparently an arm partly covered with drapery. Other drapery attached to one

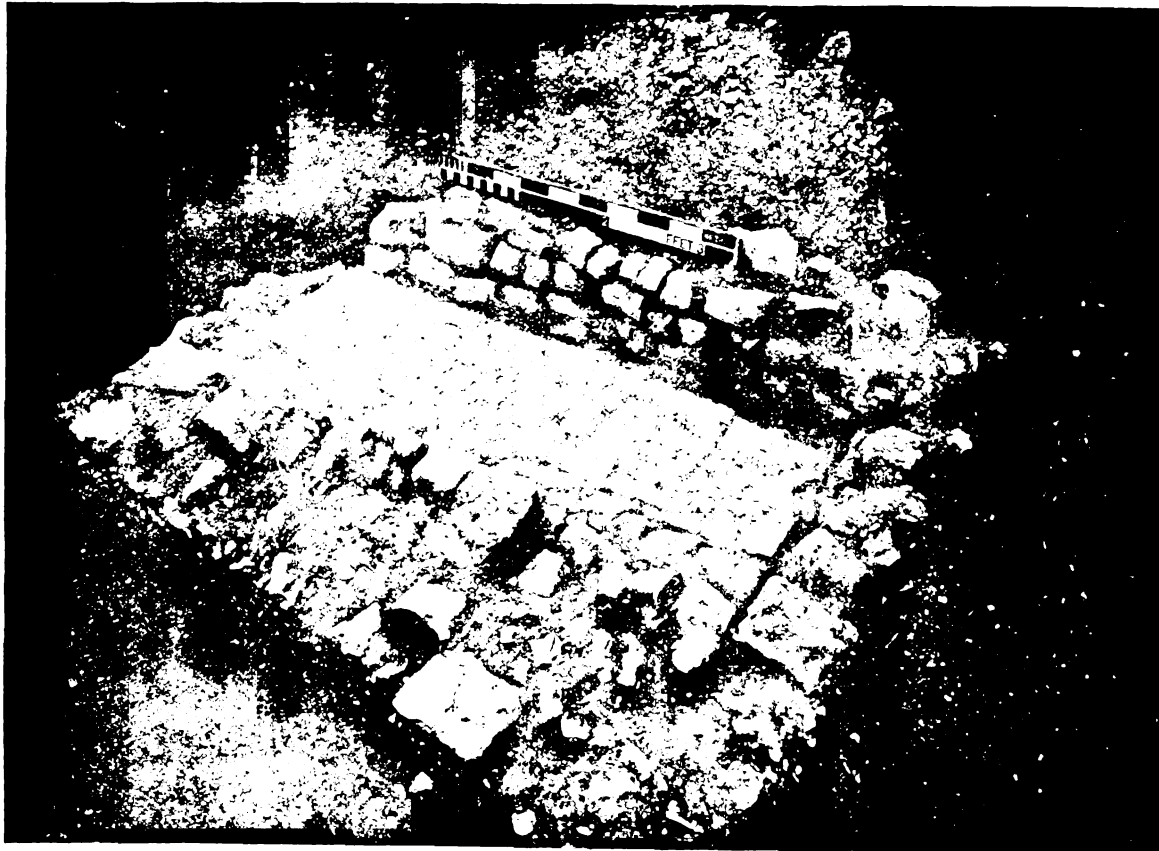


Fig. 4. Long hearth found in *Insula XXXV*.
(From a photograph by Victor Wright & Co. of Reading.)

of the legs may represent part of a cloak, and a large plain piece of stone was perhaps part of a body. It is unfortunate that so few fragments of statuary were found, but the armour suggests that some of them, at any rate, may have belonged to a figure of the God Mars.

Diligent search was made for a considerable space about the north, west, and south sides of the temple for more fragments of both image and inscriptions, but

without effect. The space to the east has however yet to be examined, and as this is in front of the entrance any pieces thrown out of the building may be found here.^a Both the smashed-up deity and inscriptions and the destruction of the *cella* floor suggest that the temple had been purposely desecrated,^b perhaps soon after the town had been Christianized, and it is not without significance that the church which was uncovered in 1892 is within a stone's throw of the destroyed temple.

The only other thing of interest found in *Insula XXXV.* was a long hearth close to the north-west corner. (Fig. 4.)

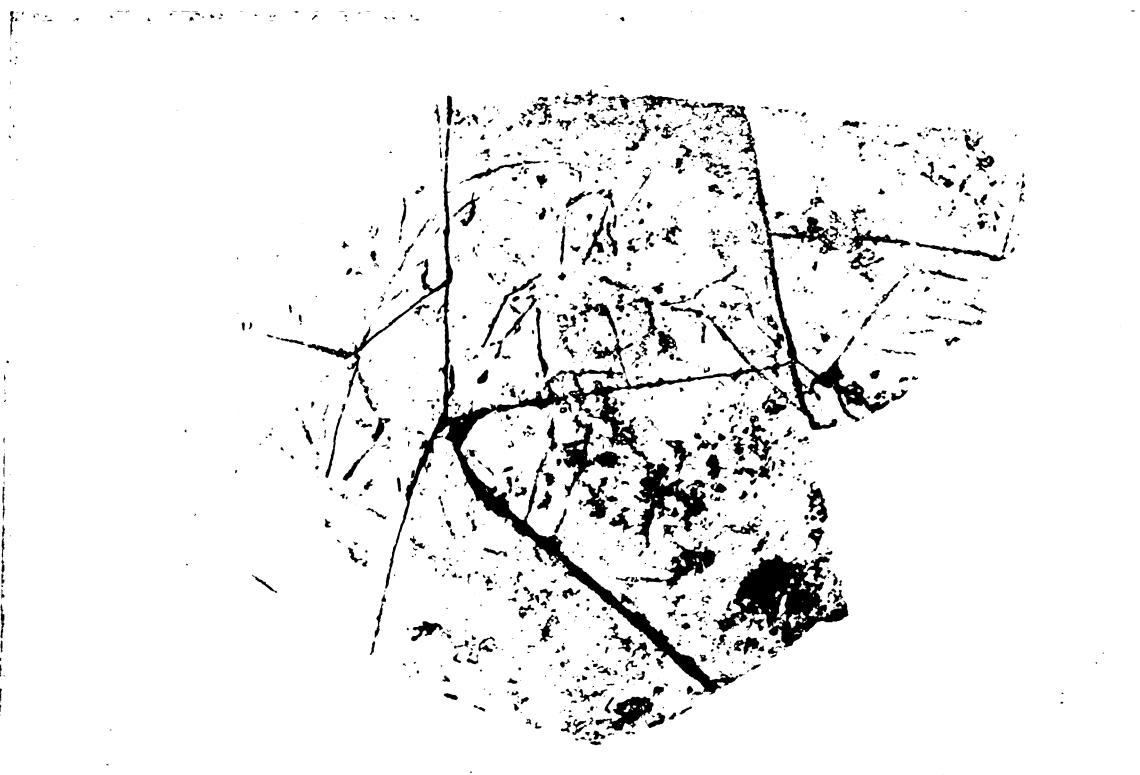


Fig. 5. Fragments of a vessel of white pottery with incised figures of a pigmy and a crane, etc.
(From a photograph by Mr. George Clinch.)

^a This area has since been thoroughly searched, but only one more fragment has come to light, apparently a piece of a hanging sleeve or other pendent drapery of the broken-up figure. The foundation, probably for an altar, measuring 2 feet 8 inches by 2 feet, was also uncovered, about 20 feet eastwards of the temple, on its axial line.

^b The projecting porch and porter's lodge of House No. 2 would hardly have been added had the temple been still in use.

In accordance with our plan of reserving all critical notice of the smaller finds until they can be dealt with collectively when the whole of the site shall have been excavated, it is not proposed to describe any in detail here. It will be useful, however, to call attention to a fragment of white pottery with an incised representation of a pigmy and a crane (fig. 5), to a shallow bowl of black pottery resting on three legs^a (fig. 6), and to a group of ten vessels of early character (fig. 7),^b found together at the bottom of a pit in *Insula XXXV*.

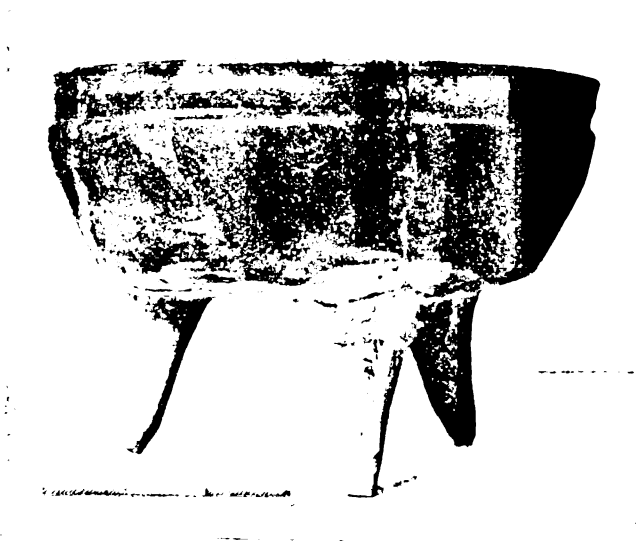


Fig. 6. Three-legged bowl of black pottery. (From a photograph by Mr. George Clinch.)

As in former years a systematic search has been made by Mr. A. H. Lyell for plant remains, and the results of his patient investigation have been examined by Mr. Clement Reid, F.R.S., who has kindly supplied the following note upon them:

“The excavations yielded ten unrecorded plants, viz.:

<i>Pisum sativum</i> . Garden Pea.	<i>Sonchus asper Hoffm.</i> Sowthistle.
<i>Chaerophyllum aureum</i> . Chervil.	<i>Chenopodium murale</i> . Nettle-leaved goose-foot.
<i>Oenanthe fistulosa</i> . Water Dropwort.	<i>Rumex Acetosa</i> . Sorrel Dock.
<i>Picris hieracioides</i> ? Hawkweed <i>Picris</i> .	<i>Rumex Acetosella</i> . Sheep-sorrel Dock.
<i>Hypochoeris radicata</i> . Cat's-ear.	
<i>Leontodon autumnalis</i> . Dandelion.	

^a One of these is a restoration.

^b One of the group has inadvertently been omitted in the illustration.

Of these only two require any comment. The pea may have been in use abundantly in Roman Silchester, though it has not before been noticed; it is so

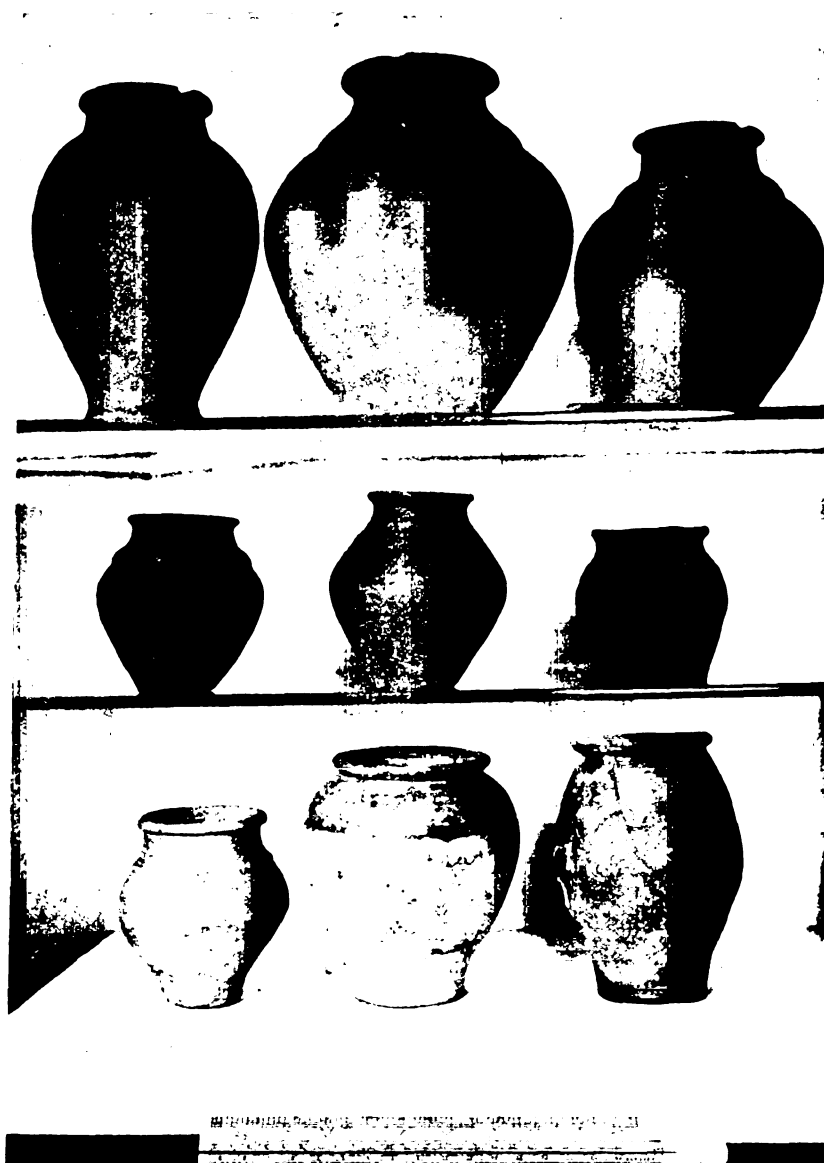


Fig. 7. Group of vessels found together in Pit 9, *Insula XXXV*.
(From a photograph by Mr. George Clinch.)

soft that it is not readily preserved unless carbonized. *Chaerophyllum aureum* is a plant of central and southern Europe, found in the Pyrenees and in central France.

It is a well-marked species, and though we have only a single much-damaged fruit (fig. 8), there can be no doubt about its reference to this plant. At first the specimen was compared with *Chaerophyllum aromaticum*, a plant of the eastern Mediterranean; but it does not agree, and I can find no other with similar fruit. The damaged condition of the only specimen suggests that it may have been introduced in packing with crockery, or possibly have been used in cookery."

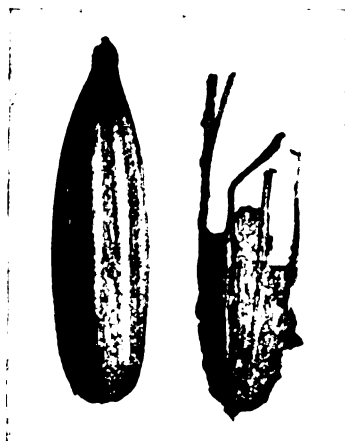


Fig. 8. Recent seed of *Chaerophyllum aureum*, and an imperfect specimen found at Silchester. (4.)

Mr. Lyell has also kindly contributed the following Notes on the specimens of wood found at Silchester in 1907 :

"The wells in *Insula* XXVIII. were wood-lined with oak, as in all previous examples. Some hazel sticks were found in the contents.

Turning to House No. 3 on the north side of *Insula* XXXV., the easternmost portion was supported by piles. Those below the wall adjoining the street were, as far as they were accessible, all of oak; whereas those supporting the walls on the east, west, and south sides of rooms 4 and 5 of the same house were two of oak, one of willow, and the rest of alder. They were placed close together, each having a diameter of about 6 inches and a length of about 3 feet 6 inches; and each, except the oak, retained the bark down to the part which had been trimmed to a point.

This difference in pile construction may indicate that the *insula* wall is of a different date from the walls of rooms 4 and 5, and also points to the probable fact that the street wall was of stronger and heavier material than that of the house; or it may point to a time late in the history of the town when, owing to the growing scarcity of oak, other woods such as alder and willow were resorted to. All the piles were in a perfect state of preservation in form and structure, although each was equally in a more or less rotten state with regard to strength. They were, nevertheless, able to support on an equal level the wall foundations and surface soil, with the help of the adjacent earth.

The room No. 4 contained two separate masses of vegetable matter several inches thick, at a depth of about 3 to 4 feet from the top of the wall, that is to say, to within a foot of the base of the piles. One deposit was found under the

north wall to the right of the dividing wall; the other on the floor under the south wall to the left of the dividing wall. There was no vegetable deposit in room No. 5. This vegetable matter contained seeds of about forty plants, among which were sloe, cherry, and large plum stones in abundance; as well as seeds of apple, fig, blackberry, opium-poppy, etc.

It has been suggested that, owing to the tile depressions on the south walls of rooms 4 and 5, these rooms were at one time hypocaust chambers. The wall which divides room 4, if an early wall, must have existed before any hypocaust, and seems not to have been destroyed when the walls of rooms 4 and 5 were built. Moreover, the walls of these two chambers as found were on a level with the street to the north, therefore the hot-air chambers if they existed were above the street level, and the floor of the winter room would have been 2 feet or more above the probable level of the rest of the house. This hardly seems consistent with the construction of hypocaust chambers as usually found. We find that the rooms were excavated from 3 to 4 feet below the top of the existing wall and street, and had a clay bottom. The sides of these chambers were also of clay with wooden piles behind.

The vegetable refuse suggests that room 4 was a latrine and the tile depressions on the south walls must have served some purpose connected with the latrine.

Pit 3, in *Insula XXXV*. situated in the courtyard of House No. 2 was 13 feet 6 inches deep. From 3 to 5 feet from the top was much burnt wood and many fragments of pottery, mostly of black ware. The lower part of this pit was filled in with yellow clay and gravel. Three feet of the lowest part of the pit contained interlaced wickerwork, very rotten and puddled behind with clay. The diameter of the wickerwork was about 4 feet 3 inches.

Mr. Stephenson, to whom I am indebted for this note, believes, owing to the lack of Roman remains, that this was a British water-hole. The sticks of which this wickerwork was made were found to be oak, alder, ash, and hazel. Owing to the use of a variety of woods it may be inferred that no special selection was made, and that the work was hastily constructed, or that the makers were indifferent with regard to the material used, and in this respect tends to confirm Mr. Stephenson's opinion."

Mr. E. T. Newton has most kindly furnished the following notes on the bones which were found:

"The bones obtained during the excavations this year present nothing of

very special importance; they are for the most part those of domestic animals, together with a few wild ones. There are likewise a human adult jaw, and parts of two very young (? new born) babies.

The bones of the stork have not been found previously at Silchester, and the present specimen is part of one of the long leg-bones which has been cut across for some purpose. The vertebra of a large example of the grey mullet is additional proof that marine fishes, by some means, found their way to Silchester in Roman times.

The following is a list of the animals represented by the bones found in 1907:

<i>Homo</i> (adult jaw and parts of two babies).	Roebuck ?
Cat.	Fowl.
Dog.	Duck.
Hare.	Grey Goose.
Horse.	Teal.
Ox.	Woodcock.
Sheep.	Grey Plover.
Pig.	Stork (leg bone cut across).
Red Deer (antler formed into a pick.)	Grey Mullet."

With regard to the further exploration of the site, it will be seen from the plan that there remains only one more *insula* to be excavated, in the north-east quarter, adjoining the stackyard. This, it is hoped, will be dealt with this year after the harvest. We also hope to be allowed to search for the cemeteries and other matters outside the wall, as well as to cut a series of trenches through the circumscribing ditches and banks, but this work may probably have to wait until the following year. The systematic excavation of *Calleva* may then be regarded as ended.

In conclusion our thanks are again due to our colleague, Mr. Mill Stephenson, for his competent and disinterested supervision and direction of the season's work, We have also to thank Mr. Challenor Smith for his beautiful model of the temple and for lantern slides of parts of the excavations.

The annexed plan (fig. 9) shows how much of the town has now been excavated.

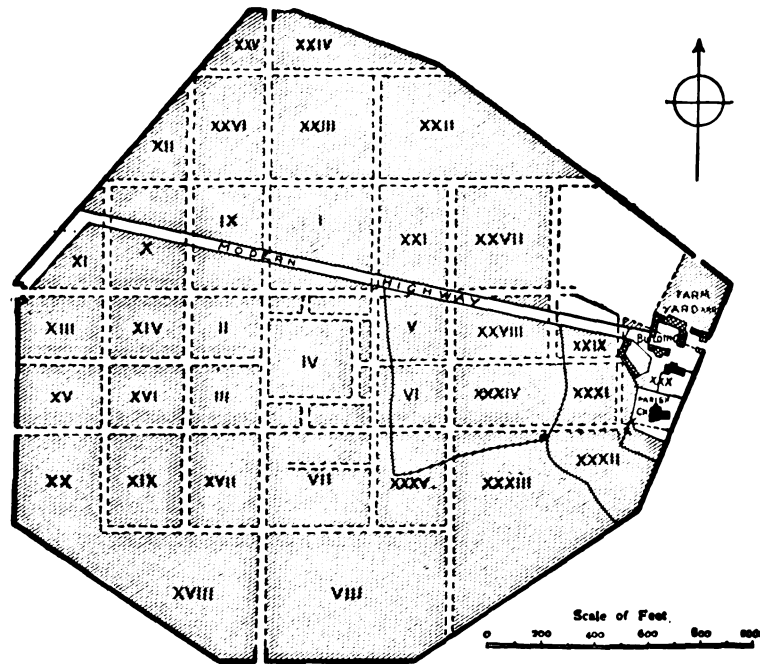


Fig. 9. Block-plan of Silchester, showing portions excavated down to the end of 1907.

NOTES ON PORTIONS OF THREE INSCRIPTIONS FOUND AT SILCHESTER.

By F. HAVERFIELD, *Esq.*, M.A., LL.D., F.S.A., *Professor of Ancient History in the University of Oxford.*

THREE fragmentary inscriptions were found in the excavation of a small temple or shrine at Silchester in 1907. (Plate XXIV.) They plainly belong to a set or series. They are all cut on thin slabs of Purbeck marble, in good lettering of rather small size ($1\frac{1}{8}$ - $1\frac{5}{8}$ inch high) which has much the same character on all three stones, and their contents seem to be more or less similar. Each of the inscriptions probably began with a man's or men's proper name or names. In No. 3 LATTICI appears to be the end of the first line, and this may be most naturally interpreted as the remains either of a simple name, say O. IVL. ATTICI, or of the

name of a freedman, say C . IVLI . O . L . ATTICI. In No. 2 MARTI may similarly represent a part of the name *Martialis*. It might, indeed, be part of *deo Marti*, but its letters are no larger than those in the remainder of the inscription, and this, though not conclusive, weighs against the name of a god. Whether MVI at the top of No. 1 is also part of a man's name is beyond decision. The names are followed on each inscription by a formula including the words *collationibus* (in 1, IONIBV; in 2, COLLATIO; in 3, COLIATI) *missum sibi* or *sibi missum*, the completion and sense of which are obscure. Thirdly comes a reference to an agent, a *collegio peregrinorum*, for thus only can the vestiges ACON...GRINORVM in 1, ACOL...ORVM in 2, and ...ORVM in 3 be completed. In No. 1 (and possibly in the other two) the name of the *collegium* may be double (GRINORVM...VM), but it is impossible to guess this second element from so slight a clue. From 2 and 3 it would appear that the *collegium* had some connexion, local or other, with Calleva, which is named in full on 1 and may be disguised in 2 in the letters C C, possibly *c(ivitatis) C(allevae)*. In No. 1 ...VM might conceivably be a trace of *civium*. Last of all comes in each inscription the common dedicatory formula *d(e) s(uo) d(at) or d(ant)*. The *um* before DSD in No. 1 may be part of such a word as *templum* or *signum*.

In all this the most tangible item is the *collegium peregrinorum*. To this title a few parallels are known, all from eastern Gaul and Germany.

(1) Found at Marbach in Württemberg on the base of a statue of Victory. *Victoriam cum base Domitius Condollus colli(gio) peregrinorum v . s . l . l . m .* Haug and Sixt, *Inscripfen Württembergs* No. 328; *Corpus Inscript. Latin.* xiii. 6453. The sense of COLLI (or COLL . I) is disputed. Zangemeister suggests *coll(egium) i(uventutis)*, a phrase which occurs elsewhere in Württemberg. But the abbreviation is violent.

(2) Found at the same place *I(n) h(onorem) d(omus) d(ivinae) genio peregrinor(um) Severus Melldidati* (or *Meliddati*) *d . s . d . d .* Haug, 329; *Corpus, ibid.* 6451.

(3) Found at Oehringen (*Vicus Aurelius*) in Württemberg, broken and worn. The text, imperfect at the beginning, is said to be ...[g]enium c[um] bas[i vete]ranis et per[eg]rinis, herede[s...posue[runt]. Haug, 431; *Corpus, ibid.* 6540. Here the *peregrini* form a "college" (though that name is not used) with discharged soldiers, presumably auxiliaries who had served their time, received their discharge and the usual gift of the Roman franchise, and had settled down near their old quarters.

(4) Soulosse in the Vosges, the ancient *Vicus Soliciæ*. The beginning of the

inscription is erased or worn, but contained seemingly the names of the Emperor Severus Alexander and his mother Julia Mamæa; the rest is *genio pagi Dervet(i), peregrini(ni) qui posuer(unt) vico Soliciæ*, dated A.D. 232 (*Corpus* xiii. 4679). The expansions of this text are not certain. What is here given has found most favour and possesses most probability.

(5) Voorburg in Holland, the ancient *Forum Hadriani*, a trading place as it seems. *In h(onorem) d(omus) d(ivinae), genio collegi peregr(inorum) Ulp(ius) Decembris et Verecund(ius) Cornutus d. d.* *Corpus* xiii. 8808.

Two explanations of this *collegium* are given by the writers, very few in number, who have noticed its obscure existence. Waltzing in his *Étude historique sur les corporations professionnelles chez les Romains*,^a compares a sense borne by "peregrinus" in some other references to Roman trade, and takes the *collegia peregrinorum* to have been associations of traders not legally domiciled in the place where they traded. This, however, is in itself a questionable view, and it ill suits the present case, for we can hardly think that the trade of Calleva was enough to support an association of strange merchants in addition to ordinary citizen traders. Others take these *collegia* to be associations of persons not possessed of the full Roman franchise. This suits better the natural meaning of *peregrinus*, which properly denotes a free person who is not a Roman but a member of a state recognised by Rome (Mommson, *Staatsrecht*, iii. 598, 599). In this context we may quote a Dalmatian inscription (*Corpus Inscr. Lat.* iii. 14729): *D. M. Silvestro, homini probissimo, peregrino huius loci; Sextinus conservos pos(uit)*. Here either *peregrinus* must mean a "stranger slave" or else *conservos* must mean "slave and comrade," and of the two the latter is the more reasonable idea. If that be so, *peregrinus* becomes equivalent, socially, to a man of the lower orders, who might be friend and comrade of a slave. This would fit in with the possibility of a *libertus* being mentioned in our inscription No. 1. But our neatly cut Purbeck slabs do not suggest poverty, and we must not add to our explanation of "wanting the Roman franchise" the notion of "poor."

A further doubt may arise as to the interpretation of c'c' in No. 2. C could easily stand for *colonia*, but we have no proof or hint that Calleva had such municipal rank, and general probabilities are rather against the supposition. On the other hand the expansion *c(ives) C(allevenses)* or *c(ivitas) C(allevensium)* seems easily and natural, and may be compared with the *civitas Silurum* of a Caerwent inscription published in a previous volume of *Archaeologia* (lix. 120).

^a ii. 332, iv. 113.

I may add that I do not feel at all clear that the fragments of statuary found with the inscriptions belong to Mars. Mars, so far as I can learn, does not properly carry a *cornucopiae*. That emblem, indeed, belongs more to a female than to any male figure. My friend Mr. A. H. Smith, whom I have consulted, suggests that possibly the pieces belong to an imperial statue which might well have the bearded chin (at least from Hadrian onwards), the draped arm, and the greaves, while the *cornucopiae* occasionally meets us in the hands of imperial figures. It is, of course, not easy to be sure that we are dealing with the remains of only one statue.

The form of the temple itself in which the fragments occurred does not seem to throw light on their character. It is an example of the small, nearly square, type of shrine which occurs commonly in Britain and Gaul, and has been (rightly or wrongly) called characteristic of this region.

VII.—*The Villa d'Este at Tivoli and the Collection of Classical Sculptures which it contained.* By THOMAS ASHBY, Esq., M.A., D.Litt., F.S.A.

Read 25th June, 1908.

AMONG the most characteristic features of the life of the Roman aristocracy in classical times may be reckoned the habit of retiring from the noise and bustle of the city to a country house in the neighbourhood.

We hear of it among the Greeks, but with them it never attained the same vogue; and in Rome it was a comparatively recent development, for the first mention we have of a villa is that of the country house of the elder Scipio Africanus at Liternum (before 183 B.C.), while the next is that of the various estates of the jurist M. Junius Brutus (about 150 B.C.).^a From that time, however, the practice increased, and at the end of the Republic, as is clear from the correspondence of Cicero, a wealthy man like Cicero himself would probably possess several country houses. Under the Empire, and especially in the second century A.D., which seems to have been the zenith of prosperity in the Campagna di Roma, the number of villas became far greater.

In the neighbourhood of Rome the favourite districts were the Alban Hills and the neighbourhood of Tibur, the modern Tivoli; and one may still see on the hill-sides many of the massive platforms which served to support the house itself and the garden terraces belonging to it, and which, owing to their utility to the olive or vine grower of the present day, still remain even where the villas which

^a For the date cf. M. Schanz, *Geschichte der römischen Litteratur*, i. 121.

stood upon them have been destroyed for the sake of the building material which they afforded.

With the decline of the Roman empire came the gradual loss of prosperity and of security, and in the low-lying districts, though not in the hills, the spread of malaria. It is a sign of the times when we find among the ruins of such villas late burials, poor tombs made of roof tiles inclined towards one another to form a gable, under which the body was placed without further ceremony. During the early Middle Ages the insecurity and desolation which spread over the Campagna were in the strongest contrast to what had gone before. The cultivators collected into centres for mutual protection; the main roads were commanded by baronial castles, the denizens of which no doubt took toll of wayfarers; while the numerous lofty watch-towers served in part for shelter and in part as outposts of the castles. With the Renaissance came, in this respect as in others, a return to the habits of the classical period; and the country house or villa came into vogue once more, especially in the hills. Among the later of these, but certainly one of the most magnificent, and for the number and variety of its fountains and for the objects of art which it contained without a rival, is the villa which forms the subject of the present paper.

The Villa d'Este at Tivoli is well known to all who have visited that town, which forms a part of the itinerary of all but the most hasty tourist. Its gardens, perhaps too formal in their prime, are now, being left to a certain extent to themselves, among the most beautiful of their kind; while the view from its highest terrace, whether northward towards the conical hills on which stand the villages of S. Angelo in Capoccia, Montecelio, and Palombara, or westwards across the open Campagna to Rome, is one of those which defies description and has been the delight and the despair of many an artist.

The object of the present paper is to describe the collection of classical sculptures which once adorned the now empty halls and half dilapidated fountains of the villa, to trace the circumstances of their discovery and acquisition, as far as possible, to follow the architectural history of the house and its garden in so far as it concerned them, to point out the various changes in their arrangement, and to identify them in the different collections into which they have now found their way. In order not to weary the reader, the detailed results of my researches have been relegated to an appendix, where they are set out in tabular form. It may be added that the task was undertaken in connexion with a work upon which the British School at Rome is engaged, that of forming a catalogue of the municipal collections of ancient sculpture in Rome. The first volume, now in course of

preparation, will deal with the Capitoline Museum, in which are contained some of the best specimens of the collection of the Villa d'Este.

There is a considerable amount of documentary evidence available, which those who saw the villa in its full glory have left to us, but it has not hitherto been brought into connexion with the descriptions of the gardens and the statues in them. This has indeed formed a considerable part of all the works on Tivoli which have been published since the sixteenth century; and it will be well at the outset, to save frequent repetitions, to give a fairly full bibliography.

The only work dealing exclusively with the villa and its history is that of F. S. Seni,^a from which, though it is not complete, much valuable information has been derived.

I. DOCUMENTS.

Extracts from account books (1540-1572) of Cardinal Ippolito II. d'Este (Cardinal of Ferrara), published by Venturi,^b and (in part) in a more convenient form by Lanciani.^c

An inventory published by Fiorelli,^d which was discovered by Bertolotti in the papers of the notary Piroli in the Archivio di Stato at Rome,^e and bears the date 3rd December, 1572. Its contents are given in Appendix A.

Various correspondence, inventories, etc. in the Archivio di Stato at Modena (Busta 70-72), parts of which have been published by Seni. An inventory of 1752-3 in Busta 72, by the antiquary Gaetano Cartieri, mentioned by Seni,^f and comprising 70 different items, has been transcribed for me by Cav. A. G. Spinelli of Modena. The results are given in Appendix B.

II. DESCRIPTIONS AND ENGRAVINGS.

A large view of the villa and its gardens from the north, published at Rome in 1573 by Antoine Lafréry, drawn and engraved by Étienne Du Pérac, and by him

^a *La Villa d'Este in Tivoli*, Rome, 1902.

^b *Archivio Storico dell' Arte*, iii. 196 *sqq.*

^c *Storia degli Scavi*, ii. 114; iii. 186 *sqq.*

^d *Documenti Inediti per servire alla storia dei musei d'Italia*, II. vii.

^e Vol. 375 (now vol. 6039), f. 357 *sqq.* I have myself examined the original.

^f *Op. cit.* 165.

dedicated to Catherine de Medici.^a Seni^b speaks of several plates of the villa engraved by Du Pérac in this year, but I have no knowledge of others than this,^c that published by Mario Cartaro in 1575, and that published by Claude Duchet in 1581, both of which are practically identical with that of Du Pérac, though from different plates.^d

All of these give the same representation of the villa, and show as finished what was not yet completed, *e.g.* the Fontanone.^e They are, however, very fairly accurate, though they seem to show one fountain too many in the middle line below the entrance to the villa.

Another plate, published by Lafréry in 1575, gives a view of the Fontana dell' Ovato or Fontanone, which was decorated entirely with modern statues in peperino and stucco.

G. A. Zappi, *Memorie di Tivoli*, MS. (from an eighteenth-century copy in my own possession),^f ff. 85 *sqq.* (the description is dated 1576).

Uberto Foglietta, *Tyburinum Hippoliti Cardinalis Ferrariensis ad Flavium Ursinum Card. Amplissimum* (Rome, Zanetti, 1579). A translation is given by Seni, 58 *sqq.* It is of no importance for our purpose.^g

Antonio del Re, *Dell' Antichità Tiburtine capitolo V.* (Rome, 1611), pp. 2-71, a detailed description of the villa as it then was, written with knowledge of the engraving of Cartaro (1575), and most useful for the identification of the statues.

^a The legend to it states that it was reduced by the artist from a drawing made by order of the cardinal for the Emperor Maximilian, to whom we know that he presented various statues (Venturi, 204, entries of 9th and 27th August, 1570). The view is reproduced by H. Inigo Triggs, *The Art of Garden Design in Italy* (London, 1906), pl. 117, from which, with Messrs. Longmans' kind permission, our Plate XXV. is taken.

^b *Op. cit.* 57, n. 1. The statement appears to be founded on Callet, *Notice historique sur . . . quelques architectes français du seizième siècle* (Paris, 1842), 111, who speaks of a volume entitled *Vues perspectives des jardins de Tivoli* dedicated to Maria (!) de Medici. Ehrle, who quotes it (*Roma primo del Sisto V.: la Pianta di Roma Du Pérac—Lafréry del 1577*—(Rome, 1908), 11, n. 4), does not seem inclined to accept it.

^c The plate fell into the hands of Giovanni Domenico de Rossi (1691-1720) who re-issued it. In all other known plates published by him he uses only the one Christian name Domenico (Ehrle, *op. cit.* 22 *sqq.*). It is still preserved at the Regia Calcografia in Rome (No. 1242).

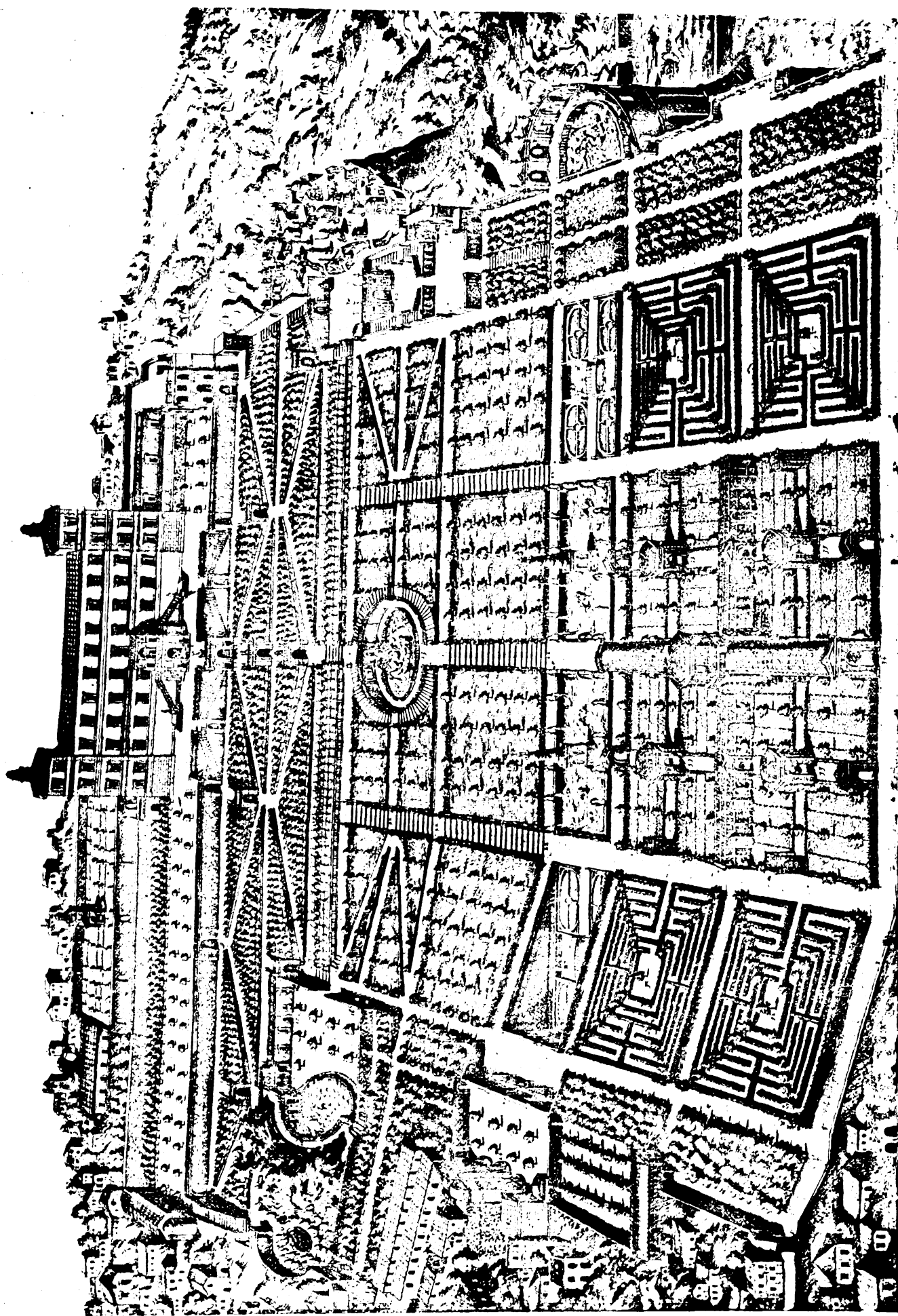
^d This view was copied on a smaller scale by Francesco Corduba, and published by Gottifredo de Schaichi about 1621, and appears, still further reduced, in Giacomo Lauro's *Antiquae Urbis Vestigia* (Rome, 1628, pl. 161) and in the appendix (1686-1696) to Domenico Parasacchi's *Raccolta delle Principali Fontane* (1647).

^e Cf. Seni, 72.

^f See *Papers of the British School at Rome*, III, 117, n. 3.

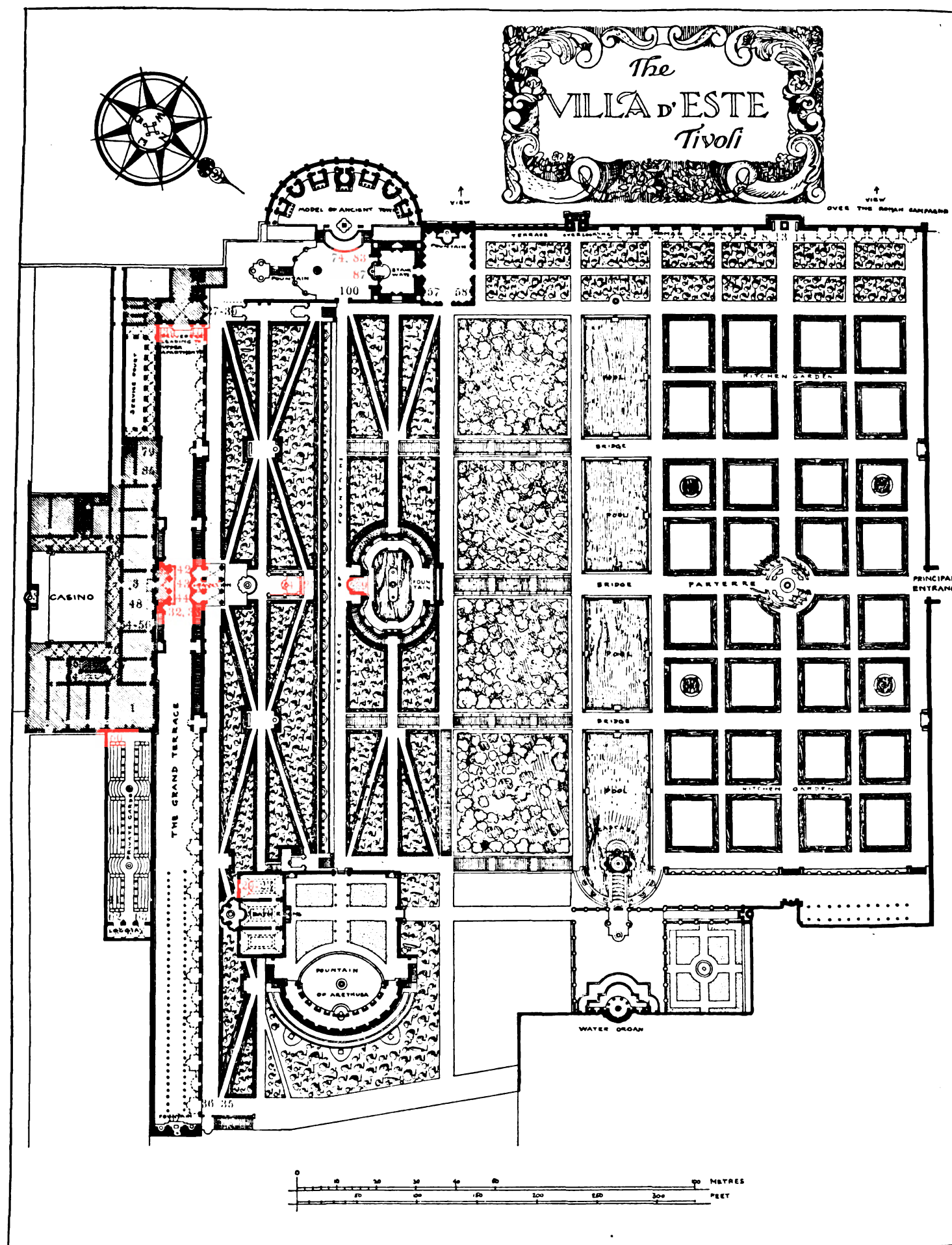
^g Triggs (*op. cit.* 125) wrongly gives his date as 1629.

IL SONTVOSISS. ET AMENISS. PALAZZO ET GIARDINI DI TIVOLI.



VIEW OF THE VILLA D'ESTE IN 1573, BY DU PÉRAC.

Published by the Society of Antiquaries of London, 1908.



PLAN OF THE VILLA D'ESTE (From Inigo Triggs's *Art of Garden Design in Italy*).

Israel Silvestre (*Alhume vedute di giardini*, etc. Paris, 1646). Views.

Fabio Croce, *Delle Ville di Tivoli* (Rome, 1664), and L. Moni, *Villa Estense in Tivoli*, Palestrina, 1702, mention nothing not otherwise known.

Descrizione della villa fatta da un'anonimo (1 Nov. 1678), (Arch. Stato Modena Busta 71, published by Seni, p. 261).

Giovanni Francesco Venturini, *Le Fontane del Giardino Estense in Tivoli* (Rome, Giovanni de Rossi, circa 1685). Cf. Plates XXVII.-XXXIV.^a

Descrizione della R. Villa Estense di Tivoli, written by the then keeper of the fountains (*Fontaniere*) in 1725. Unpublished MS. bought by the present writer in a sale in Rome at the Libreria Romana in February, 1908 (no. 633), in which were included some documents that had belonged to the Albani family.

G. B. Piranesi, *Vedute di Roma*, i. 46 (*Opere complete*, vol. xvi. No. 730).

O. Brioschi, *Villa d'Este in Tivoli* (Rome, 1899). Introduction by Hülsen. Views.

An excellent plan and a brief description are given in H. Inigo Triggs, *The Art of Garden Design in Italy* (London, 1906).^b The three photographs of the villa as it now is, by Mrs. Aubrey Le Blond (plates 114-116), are indeed so good that I have not ventured to challenge comparison by reproducing any of my own.

The founder of the villa was the younger Cardinal Ippolito d'Este, called the Cardinale di Ferrara, to distinguish him from his uncle, who also bore the name Ippolito. He was the son of Alfonso I. d'Este and Lucretia Borgia, and was born in 1509. In December, 1538, he became cardinal, and in 1549 was appointed Governor of Tivoli.

He already possessed a palace in Rome on the Quirinal, in the gardens of which there was a considerable collection of statues,^c and the accounts published by Venturi contain a reference to excavations at Tivoli as early as 1550, in which a

^a Lanciani, *op. cit.* ii. 115, mentions five views of fountains in the "Nuova Raccolta di Fontane," dedicated by Giangiacomo de Rossi to the marquis Andrea Corsini.

^b Pp. 125 *sqq.* pl. 113-117. The plan is adapted from that of Percier and Fontaine, *Choix des plus célèbres maisons de plaisance a Rome* (Paris 1824), pl. lviii. It is reproduced, with the kind permission of the publishers, Messrs. Longmans, as our Plate XXVI. The numbers inserted are those of the inventory of 1572, and show the collocation of the statues in the time of Del Re.

^c Of this collection three inventories exist: one bearing date 15th July, 1568 (some of the objects mentioned in which had already been transferred to the Villa d'Este in Tivoli by 1572), published by Fiorelli *op. cit.* 157; another bearing date 2nd December, 1572 (*op. cit.* iv. n. 4), and immediately preceding that of the Villa d'Este given in Appendix A; and a third (undated) of 1572-4 (*op. cit.* viii. n). With the statues that were not conveyed to Tivoli I do not propose to deal here.

Hercules, a headless Venus, and another statue were found; while in 1560 excavations were made at the Villa of Hadrian,^a and at Capo di Bove, and Casal Rotondo on the Via Appia,^b and from this year onwards we find many entries for the purchase, the repair, and the transport of statues to and from Monte Cavallo and the sculptors' shops.

The provenances of these, as far as it has been possible even conjecturally to determine them, will be found in Appendix A, but a certain number of the more important may be mentioned here. Thus, one of the statues of Hercules, either the recumbent one or that with Telephus (the latter of which, as we shall see later, is now in the Louvre), the Æsculapius^c and the Hygieia of the Villa d'Este, were probably found upon the Palatine in the large niche behind the straight end of the so-called *Hippodromus Palatii* or *Stadium* (really the garden of the Domus Augustana as reconstructed by Domitian), in the Orto di S. Bonaventura, possibly in 1552, inasmuch as they correspond with the indications given by Pirro Ligorio on a MS. plan probably belonging to that date.^d

Again, the Amazon sold to the cardinal for 75 scudi by Francesco Roncone and Leonardo Sormanno on 5th March, 1570, and found no doubt in or close to the *Stadium*, the site of which was occupied by the vineyard of the Roncone

^a According to the account given by De Fabris (*Diss. Pont. Accad. Rom.* xiii. 209), the truth of which is not certain, the fragment of a frieze representing Ariadne abandoned by Theseus, and discovered by Dionysus, now in the Galleria delle Statue in the Vatican (No. 416, see Amelung, *Die Sculpturen des Vatikanischen Museums*, ii. 654), was found in Hadrian's Villa in the sixteenth century by Cardinal Ippolito d'Este and given by him to his relatives at Ferrara. De Fabris, who came across it in the custom-house at Rome in 1845, and on whose report the Pope saw it and ordered its transport to the Vatican, conjectured that it had been sent back to Rome three centuries later for restoration. Amelung, however, notices that there are, in the same museum, two other fragments of a precisely similar frieze (*Gabinetto delle Maschere*, 434, 442), agreeing in measurements, material, arrangement, style, and details, the provenance of which from Corcolle (for the locality, see *Papers of the British School at Rome*, iii. 138), where they were found by Volpato in the eighteenth century, is absolutely certain. And it is possible that the unnamed family of which De Fabris speaks (p. 211, n. 4) as having possessed other fragments, may have been the Volpato family.

^b The results of a careful examination of the extracts from the accounts as given by Venturi will be found in the notes to Appendix A. I may have omitted some doubtful identifications.

^c It may be mentioned that the description does not tally with either of the engravings of *De Cavalleriis*, I. 20, 21 = I. II. 39, 40, nor can we be certain if this is the Æsculapius for materials for the putting together of which 497 scudi were paid on the 9th February, 1561 (Venturi, 199).

^d See Hülsen, *Römische Mitteilungen*, 1895, 281. He there (and rightly) rejects Ligorio's identification of the statue with the Hercules of Lysippus, which he accepts in Jordan-Hülsen, *Topographie*, i. 3, p. 96, n. 126.

family (Vigna Roncone), is probably one of the two Amazons which figure among the statues of the villa, and afterwards found their way to the Capitoline Museum, though it is impossible to say which. Hülsen^a is probably wrong in not taking the word Amazon literally; instead of this he refers it to one of the fifty Danaids which adorned the portico of the library connected with the temple of Apollo on the Palatine.^b

The entries for transport to Tivoli begin in 1569, when we find a Diana and Hercules and Æsculapius conveyed thither.^c On 30th May, 1570, the Mars (Inv. 45) was carted thither, and on 11th May, 1571, a Venus and a Pollux. Another Diana went there on 8th October, 1571. One of the two Dianas was restored on 31st March, 1572, at the price of 16.50 scudi.^d

In the purchases made by the Cardinal, we may remark that he preferred statues to bas-reliefs, as being apparently more suitable to the architectural character of the fountains.

The statues were in part placed in the various apartments of the villa, but

^a *Röm. Mitt.* 1891, 106; cf. 1896, 207.

^b *Schol. Persius*, 2, 56. It is not possible to glean further information about the twenty or more torsi of Amazons (so called) seen by Vacca (*mem.* 77), which have been identified with these Danaids.

^c Venturi, 204. Probably (*Petersen, Röm. Mitt.* 1896, 101) Inv. 1572, 24.

^d Records of the purchase of both these Dianas are preserved in the documents published by Venturi. One of them is mentioned as having been bought on 13th November, 1565, for Monte Cavallo from Messer Giuliano, a surgeon who had a house at Monte Giordano, together with a Venus and a Faun (not certainly identifiable) for the total cost of 45 scudi 50 baiocchi, while the other was bought on 20th January, 1567, from Messer Alessandro Brunorio for 23 scudi. Neither of these statues is mentioned as still at Monte Cavallo after the Cardinal's death. It is curious that only one Diana is mentioned at Tivoli either in the Inventory of 1572 (No. 27) or in subsequent descriptions. Its identification with either of the two described by Ligorio as found at Hadrian's Villa to the north of the Canopus (*Winnefeld*, p. 154, quotes the various accounts) is thus inadmissible. Ligorio says that one was "a large statue of Diana with the dog close to her," while the other was also of Diana with the bow and arrows in the act of going hunting." And in the Turin MS. he adds that these and the other statues found there passed into the hands of Cardinal Caraffa, who gave them to various princes. Penna (*Villa Adriana*, iii. 20) identifies the first of the two mentioned by Ligorio with the Diana of the Villa d'Este and the statue of Diana in the Sala degli Animali at the Vatican (No. 210), but this statue agrees far less well with the description of Del Re than that in the Capitol (*Atrio*, 52), in regard to which we have the further evidence of the inventories given in Appendix D. However, if Penna's statement that the statue in the Vatican was acquired by Pacetti from the Villa d'Este in 1788, and by him sold to the Vatican, is correct (it finds some favour from *Winnefeld*, but is not even mentioned by *Amelung*) we have in it the second statue of Diana which we need.

also served to decorate the elaborate fountains which adorned the garden, with their mythological scenes in painted stucco and mosaic forming a background to these works of classical art.

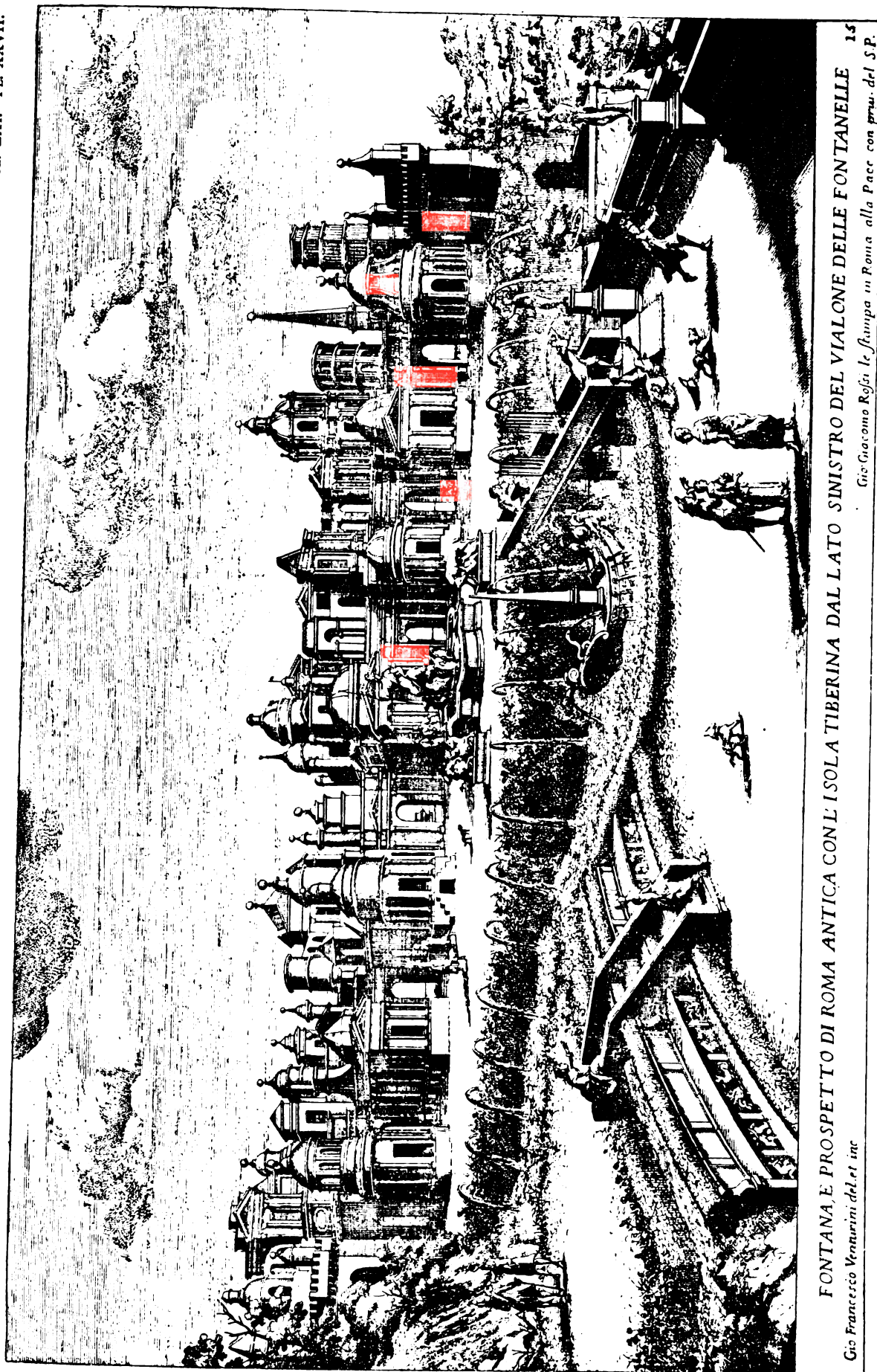
For some of the principal fountains, however, the necessary statues were made then and there of peperino or tufa, or travertine coated with stucco; and we have records of the artists who made them and the sums they were paid for them. These were naturally not saleable; and the result is that, while the treasures of classical art which the villa once contained have, with a very few unimportant exceptions, found their way elsewhere, these works of late Renaissance artists still remain for the most part in the places they were intended to adorn, sadly dilapidated as a rule, but perhaps more pleasing to our taste than when they were aggressively new, inasmuch as their artistic merit cannot be said to be very high.

The stucco representation of Rome is especially noteworthy. A view of it is given by Venturini (Plate XXVII.) as it was in its prime, and fig. 1 (which I owe to the kindness of Miss D. E. Bulwer) shows its present condition with the statue of Rome. Besides all the principal buildings of Rome and the island of the Tiber, we even have the famous group of the lion and horse. In the centre was a large statue of Rome;^a and in another place a recumbent statue of the Tiber. Del Re (55 *ad init.*) and the *fontaniere* (p. 15) note the use as a fountain basin of a rectangular sarcophagus of white marble with figures of men and animals fighting, of good work; it was, according to the former, 2 metres long and 0.50 metres wide. (See Inv. 1572, 74.)

The site selected for the villa faced almost due north, and was upon a steep slope, so that the villa itself commanded the garden below it, with its terraces at various intermediate levels. A part of the site had been already occupied by a villa in Roman times, the remains of which are described by Antonio del Re^b as those of the villa of Quintus Cæcilius Pius Metellus Scipio. The name rests, as indeed do most of the traditional names of villas in the neighbourhood of Tivoli, upon a somewhat slender foundation, merely the fancied resemblance between the name Campetello, applied to the locality, and Campus Metelli. Del Re gives us, however, some interesting information, that it began near the church of S. Maria in Colle Marii (supposed to mark the site of the villa of Marius), extended

^a It is of travertine: De Brosse (*Lettres familières*, ii. 282) is strangely in error of speaking of it as a "fairly good statue of Greek marble," and he mentions no others, though his visit (1739-40) was previous to the sale of any of the statues.

^b *Op. cit.* 107.



VENTURINI'S VIEW OF THE REPRESENTATION OF ANCIENT ROME IN THE VILLA D'ESTE.

Published by the Society of Antiquaries of London, 1908.

towards the churches of the Annunziata and S. Pietro, reached the main road to Rome at the houses belonging to the Gentili family, where in the neighbouring garden mosaic pavements with figures of peacocks had been found, and extended as far as the garden of the Villa d'Este on the side where the large fountain called the Ovato was constructed. In making the foundations of it a small statue



Fig. 1. The Fountain of Rome and the Casino, Villa d'Este.

of Diana was found, and a few months before Del Re wrote,^a in digging under a house not far from the fountain, ruins of this villa were found, with a pretty little Satyr of white marble. Remains, apparently more recently excavated, may

^a That is to say, early in 1610, for the *imprimatur* bears date 18th October of that year, though the preface was not written until 8th April, 1611.

indeed still be seen in the garden of the Villa d'Este itself, on the same side as the Fontana dell' Ovato, but a good deal lower down, to the east of the Fontanile delle Aquile Estensi, including walls of *opus reticulatum*, orientated in the same direction as the garden, of two or three chambers, an *impluvium* paved with travertine, and some columns; a part, in all probability, of the villa mentioned by Del Re.

In 1550,^a we find purchases of land beginning. The architect was Pirro Ligorio,^b who is known, according to Seni (p. 54), to have written a description of the villa; but this does not seem to be any longer in existence, if indeed it was ever written. There are, however, three different editions of a description of Hadrian's villa written by Ligorio and dedicated to the Cardinal.^c

The copy in *Barb. Lat.* 5219 of the second was that actually used by Antonio del Re, who copied considerable sections of it in regard to the Villa of Hadrian, etc. That he used a description by Ligorio of the Villa d'Este, however, is not anywhere stated by him, though Seni supposes it.

The first and most important edition of the description of Hadrian's Villa^d refers to the excavations made by the Cardinal (f. 8^v) and mentions in the so-called Latin theatre the discovery four years before, *i.e.* in 1560 (?), of 40 niches, in which were as many (*sic*) *torsi* of statues from the knee upwards of "cose Herculee" (athletes?) (13^v). Close by, in the so-called Palaestra, Giovanni Bartolomeo Bucciola, the owner of the site, found several fine statues: a Hadrian^e and a Ceres (possibly Inv. 1572, 44) which went to the garden of the Quirinal, a head of Isis,^f and "a draped Hecate who was carrying the letter to Juno in a vase," the so-called Pandora of Inv. 1572, 34.

^a Seni, *op. cit.* 52.

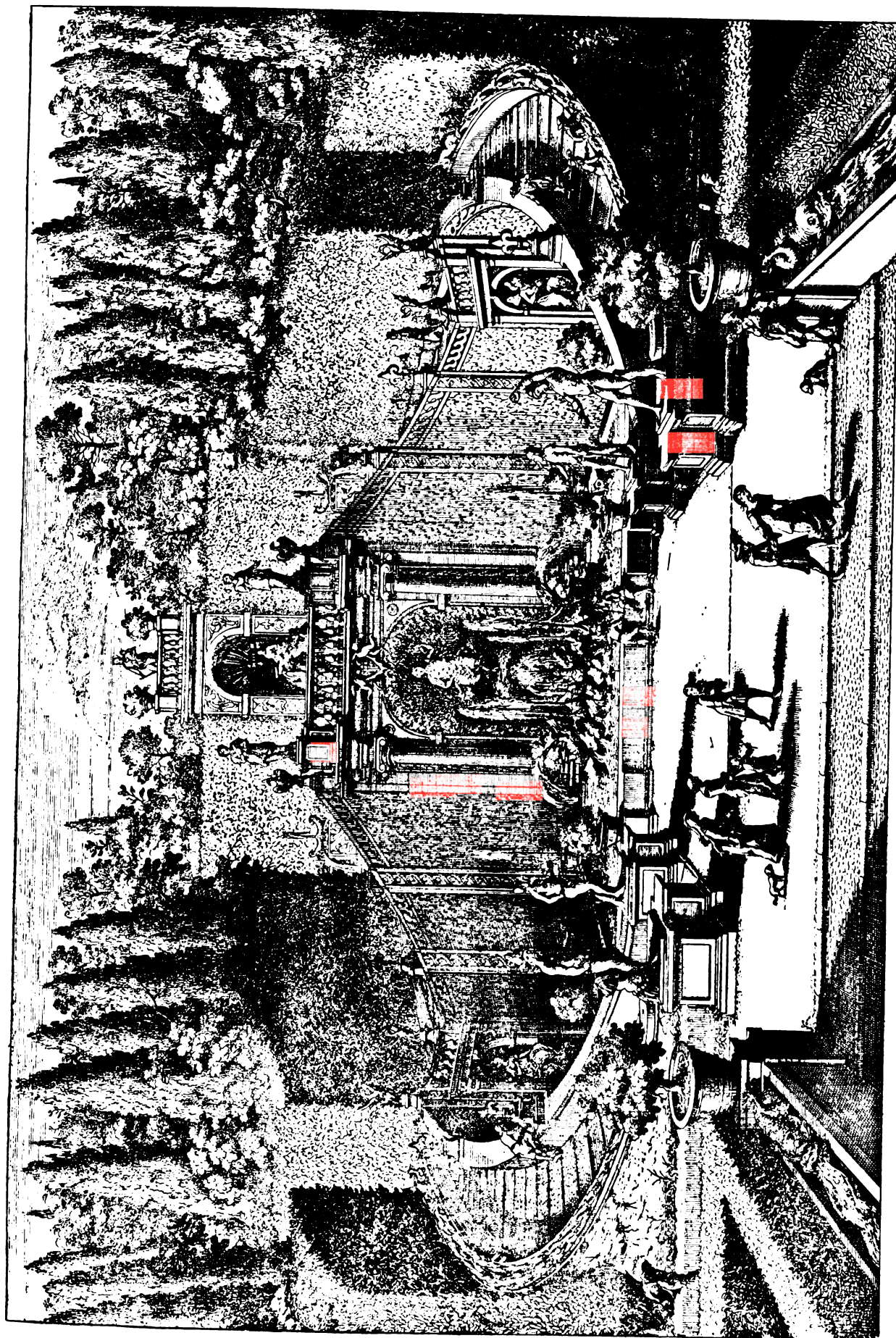
^b Triggs (*op. cit.* 125) attributes the design of the gardens to the joint work of Pirro Ligorio, Giacomo della Porta (who certainly made some of the fountain statues), and the hydraulic engineer, Orazio Olivieri (*cf.* Percier and Fontaine, 45).

^c See *Jahrbuch des Kaiserlichen Deutschen Archäologischen Instituts*, Ergänzungsheft V. (Winnefeld, *Die Villa des Hadrian*), 5; Seni, *op. cit.* 56 n. The first edition is to be found in *Cod. Barb. Lat.* 4849 (8^v *sqq.*), *Vat. Lat.* 5295 (5^v *sqq.*); also in *Brit. Mus. Add. MS.* 22001; Paris, *Bibl. Nat. fonds ital.* 625 (so P. de Nolhac in *Mélanges Renier* (1886), p. 325 n. 1); the second in *Barb. Lat.* 4342 (38 *sqq.*), 4849 (47 *sqq.*), 5219 (127 *sqq.*), and was published from a MS. at Leyden by Havercamp in Grævius and Burmann's *Thesaurus antiquitatum et historiarum Italiae*, viii. part 4. The third is only preserved in vol. xx. (29^v *sqq.*) of the Turin MS. of his work on antiquities (*cf.* Lanciani, *Storia degli Scavi II.* 111 *sqq.*).

^d I cite *Cod. Barb. Lat.* 4849, 8^v *sqq.*

^e De Cavalleriis I. 36. i. ii. 41. Vatican, *Braccio Nuoro*, 132.

^f Museo Chiaramonti, 547.



FONTANA DE DRAGHI DETTA LA GIRANDOLA SOTTO IL VIALONE DELLE FONTANELLE

Gio: Francesco Venturini del et inc

Gio: Giacompo Rofri le stampa in Roma alla Pace con Priu. del S. P. II

VENTURINI'S VIEW OF THE FOUNTAIN OF THE DRAGONS, VILLA D'ESTE.

Published by the Society of Antiquaries of London, 1908.

In the Piazza d'Oro^a were placed, on each side of the apse, statues of Venus, two of which were removed to the garden of the Cardinal on the Quirinal "with other figures which represented nymphs of the ocean, where was Inachis, or the Egyptian Venus, and Hipponoe" (f. 18).

None of these correspond certainly with statues in the Villa d'Este except the so-called Pandora.

The death of Cardinal Ippolito d'Este in 1572 left the villa incomplete; but the work was continued by his nephew and heir Cardinal Luigi d'Este, and visited in 1573 by Pope Gregory XIII., in compliment to whom the Fontana dei Draghi with its dragons, allusive of the crest of the Boncompagni family, was inaugurated. Plate XXVIII,^b from Venturini, plate 11, gives a good idea of it.

The internal decorations of the villa consisted of frescoes and stuccoes, due in the main to the brothers Taddeo and Federico Zuccari, and especially to the latter. They need not, however, be further dealt with here; particulars will be found in the descriptions already cited.

The death of Cardinal Luigi d'Este in 1586 led to the seizure of the villa by Cardinal Alessandro Farnese, then dean of the Sacred College, in virtue of the will of Cardinal Ippolito; in the charge of the successive deans it was much neglected.

Cardinal Alessandro d'Este, nominated governor of Tivoli in 1605, took possession (perhaps even earlier) of the villa, and carried out very considerable improvements and repairs to the fountains and gardens, as is attested by the register of payments.^c (It is to him that Del Re dedicated his work.) The only

^a cf. Winnefeld 70 *med.*, 150.

^b The panorama of 1573 shows the gardens complete, as they were intended to be, and certain changes of plan naturally took place, *e.g.* the fountain of Neptune was intended, according to this engraving (No. 29) to have had in the centre a standing statue of the god, with his trident in his hand, standing upon and driving four sea-horses; whereas Del Re (p. 69) saw fragments of the unfinished statue, the head and some limbs, lying about in the garden, where they still are; while the fountain itself was never built. Nor were the fountains of the grottos of the Sibyls (No. 19) nor of Venus (No. 31) ever constructed as designed. Also the Grotta di Venere (No. 17) had already been altered by Del Re's time (p. 52), a Bacchus having been substituted for the Venus. Zappi, 93, and the inventory of 1572, Nos. 12-20, describe it in its original state.

Again, the fountain of Arethusa (No. 9) is not noted by Del Re or subsequent writers; while No. 11 seems to have acquired subsequently the name of "fontanile del Mascherone" (*cf.* the *Descrizione* of the *Fontaniere*, 8, 12), and neither it nor its fellow No. 12 was decorated with statues (*cf.* Del Re, 46). The fountain of Antinous, too (No. 26), had not been completed by Del Re's time.

^c Seni, *op. cit.* 118. *Cf.* the list of work done by the painter Calderoni in 1609-12, *ibid.* 254.

antiquity noted among these is a column of porta santa marble, found in Hadrian's villa, and brought to the palace (payment of 29th May, 1613). He succeeded eventually in obtaining from Pope Gregory XV. in 1621 the restitution of the villa to the house of Este.

Other repairs to the fountains were carried out by Duke Francesco I. in 1632; and the elder Cardinal Rinaldo d'Este (1641—1672) followed his example. In the inventories of the period cited by Seni we find mentioned four marble heads, two large and two small, a small torso of a statue, various fragments of a statue with the head of a putтино.^a The description of Croce (1664) belongs to this period.

The second Cardinal Rinaldo, who soon abandoned the purple, appears to have done little or nothing, and the various references to the moving of statues and the construction, *e.g.* of the Fontanile del Bicchierone above the statue of Hercules and Telephus from Bernini's designs, refer to the elder cardinal. Bernini also improved the water supply of the villa. This had been due to a special conduit, which conveyed to it the water of a spring known as the Acqua Rivellesse, from the Colle Ripoli, to the east, and also to a tunnel starting from the Anio above the falls, which brought some of the river water to the villa.

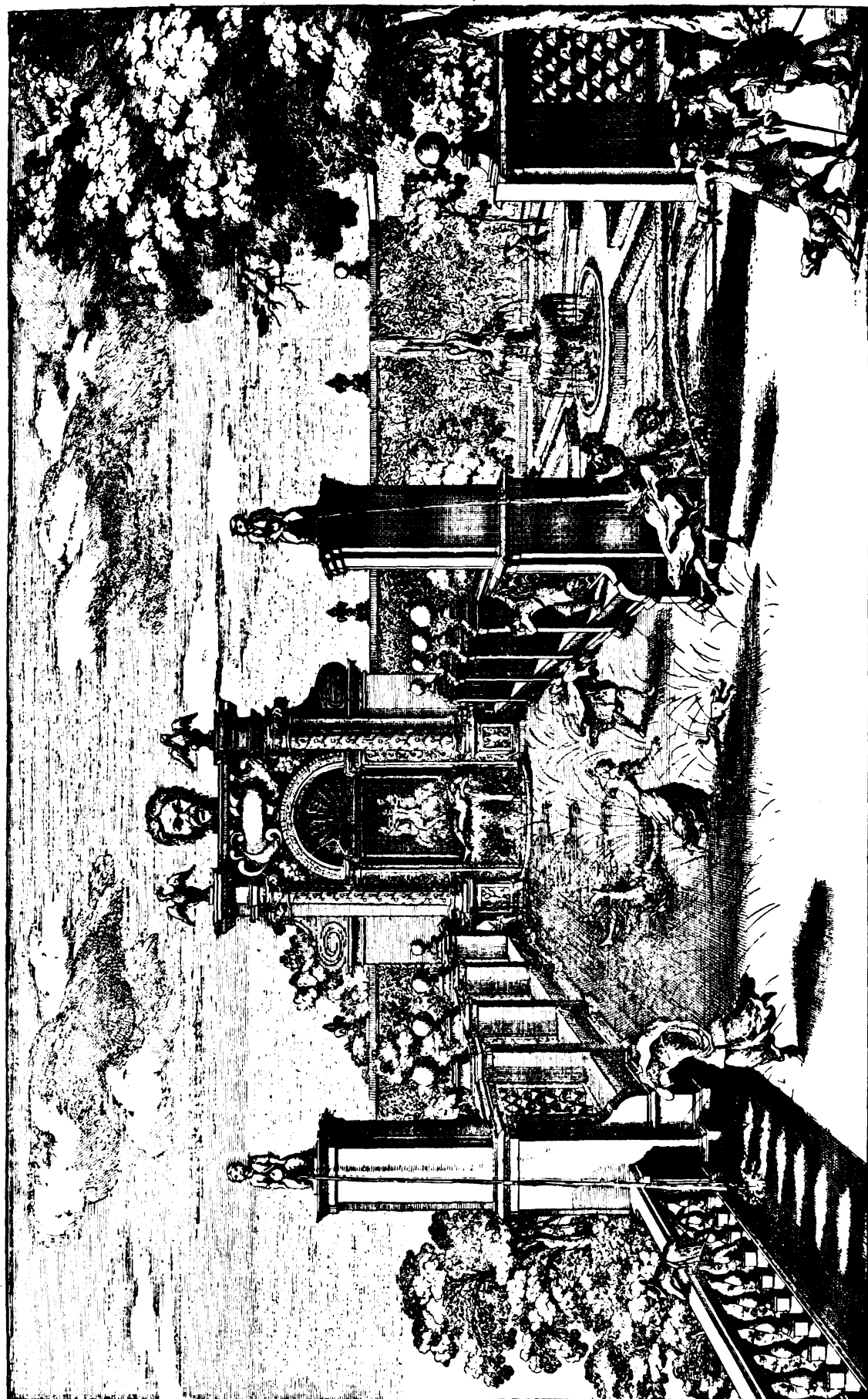
Francesco II. (1672—1694) on the other hand carried on various works of the kind, as an inscription still preserved in the villa and bearing the date 1685 records, and it is to him that the work of Venturini is dedicated.

These engravings of Venturini are the only representation in detail of the fountains of the villa, when they were in all their glory, that we have; and they supplement and illustrate the descriptions that we have in important points.

Thus, we see the Fontanile dei Draghi (Plate XXVIII.) with the various statues which adorned it. On the lower level we see the four nude male statues mentioned by Del Re (p. 64).^b In the niche in the centre, at the back, is the seated Jupiter (Inv. 1572, 9); and on each side is another niche with a statue, the Psyche (Inv. 1572, 41) on the right, and a seated female statue on the left. These two were not here in the time of Del Re, and the latter I have not identified. The *Fontaniere* (p. 20) has omitted to fill in the names of the statues, but Cartieri (No. 18) describes the Psyche as here, and in the opposite niche "a seated woman, life-size: it is mediocre work and modern. The head has been put on again: the left arm is wanting, and the whole is generally damaged: value 10 scudi."

^a *Arch. Stat. Modena*, Busta 70.

^b *Infra*, Appendix C.

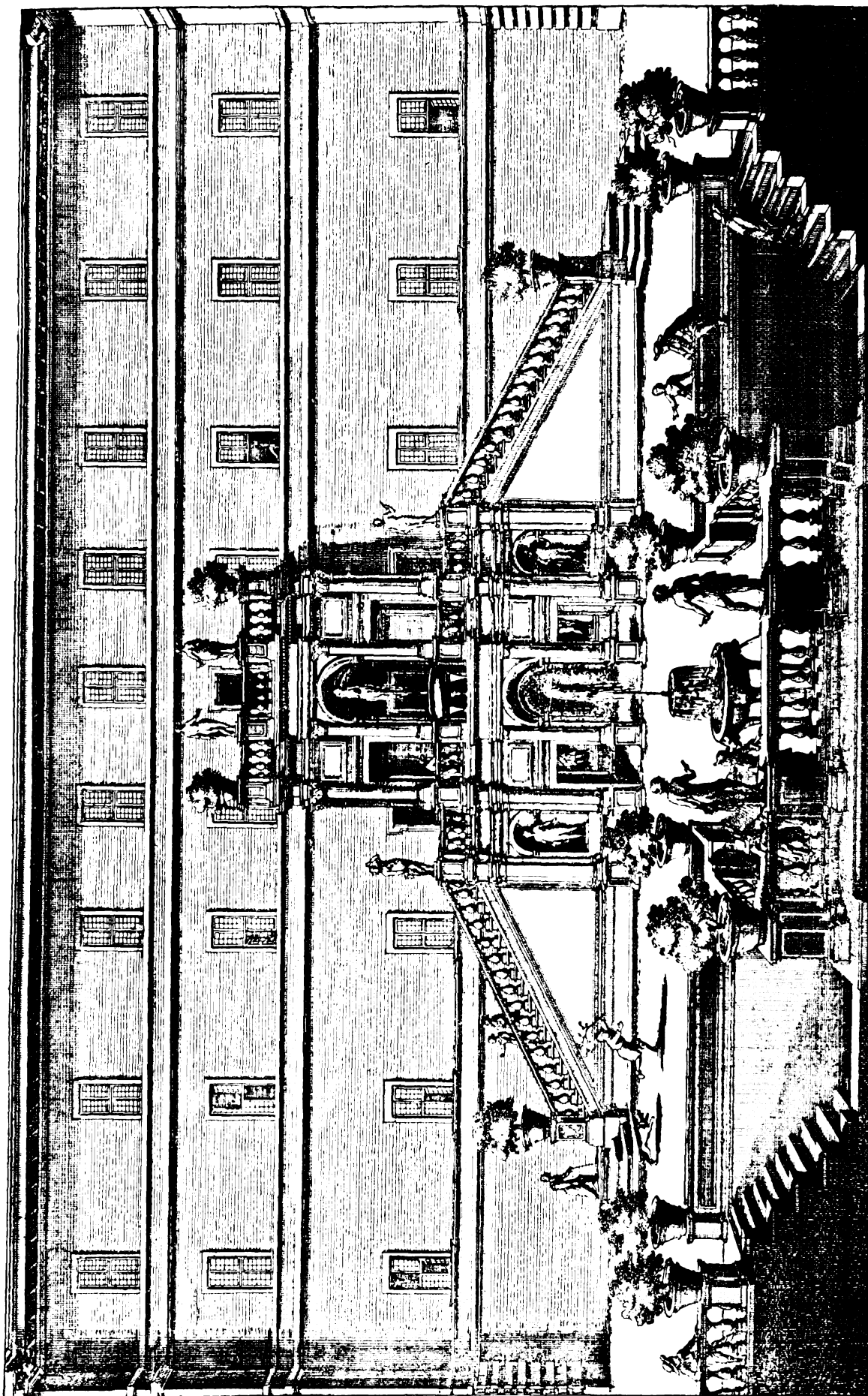


FONTANA DI VENERE POSTA NEL PIANO DELL' ORGANO

Gio. Francesco Venturini del. et inc.

VENTURINI'S VIEW OF THE FOUNTAIN OF VENUS ON THE LEVEL OF THE FOUNTAIN OF THE ORGAN, VILLA D'ESTE.

Published by the Society of Antiquaries of London, 1908.



VEDVIA E PROSPETTO DEL PALAZZO NEL GIARDINO

Gio. Giacomo de Rossi le stampa in Roma alla Pace con Priv. del S. Pont.

Gio. Francesco Venturini del. et sculp.

VENTURINI'S VIEW OF THE GARDEN FRONT OF THE PALACE, VILLA DESTE.

Published by the Society of Antiquaries of London, 1908.

On the balustrade above the niche containing the statue of Jupiter are two draped statues, apparently of women. Del Re (p. 54) mentions them as having helmets on their heads, but they are not so shown in the engraving. They are not spoken of by other writers, unless they are the "two ideal statues of marble, of ordinary work, in a very bad state, so that they are not priced" of Cartieri's inventory (Nos. 21, 22). Above and behind them may be seen the niche containing the recumbent Hercules, and, still higher, the statue of Hercules with Telephus.

On the other hand, the *Fontaniere* (p. 23) mentions, but gives no particulars of, two statues, each standing on a pedestal at the top of the paved steps, where Venturini shows two large flower-pots.

We get from him too (plate 22 reproduced in Plate XXIX.) a representation of the "fountain of Venus on the level of the fountain of the organ," identical with the fountain of Venus Cloacina of the bird's-eye view of 1573, and still existing. A recumbent statue of Venus, not mentioned by Del Re, but described by the *Fontaniere* (p. 35) and by Cartieri (No. 25), who speaks of it as much damaged, may be seen in the niche; and it is amusing to observe the effect upon the visitors of the various fountain jets in the pavement, which produced somewhat unpleasant surprises. Such *giuochi di acqua* existed in other parts of the villa also.

Again, his representation of the front of the villa itself (Plate XXX.) shows us two nude statues on the balustrade in front of the fountain of the sea-horses (Inv. 1573, 78) not mentioned by either Del Re or the *Fontaniere* as standing here, but which might be the Faun and the Pan mentioned by the latter on p. 66.^a

The statue of Leda and the two statues in the inner niches (Bellona and Ione) are not clearly visible, while two nude male statues have taken the place in the outer niches of the Vestal Virgin and the Ceres which Del Re saw there. The inventory of 1572 mentions indeed (No. 45) "a nude statue of marble" as under the stairs of the palace, though Del Re does not, and both Zappi (who speaks of Castor and Pollux) and the view of 1573 show two nude statues here. The Castor of the inventory of 1572 (No. 31) seems to have been situated in a niche rather to the west between the fountain of Diana and the statue of Pandora.

There are two other nude statues on the balustrade above, which the bird's-eye view of 1573 shows where Venturini shows the two large flower-pots, not mentioned in any of our descriptions, while above the door into the palace are

^a See below.

still two more, which have, curiously enough, their backs to the spectator. The *Fontaniere* (see below) saw four statues there.

It is of course conceivable that Venturini's accuracy is not unimpeachable;^a or, again, that some of these statues were modern; but in that case we should expect to find some of them there now, which we do not.

Among the fountains completed in or about 1680 appears to have been that of Pluto and Proserpine. The fountain is called, in the 1573 panorama, *fontana degli Imperatori* (No. 20), while Del Re (p. 62) describes it as not yet finished, the stucco decorations of the background being intended to represent scenes connected with Pan.

In 1680, however, we find Venturini (see Plate XXXI.) representing it as the *Fontana di Proserpina*, and the *Fontaniere* describes it in 1725 (p. 16) as having in the main niche two ancient statues larger than life-size, representing Pluto in the act of embracing and carrying off Proserpine. These statues are not mentioned by Del Re nor in the inventories; and from the representations given of them by Venturini I should be inclined to believe that they were not ancient at all. In the lateral niches outside the fountain were two standing statues of putti, mentioned by the *Fontaniere* as also ancient, and shown by Venturini.

The *Fontaniere* notes that the fountains in the long *viale* were decorated with bas-reliefs in stucco, intended to be models for those of marble, but that the death of Cardinal Ippolito put an end to the project. After 160 years they were still in good condition (p. 10 *fn.*), but are now dilapidated.

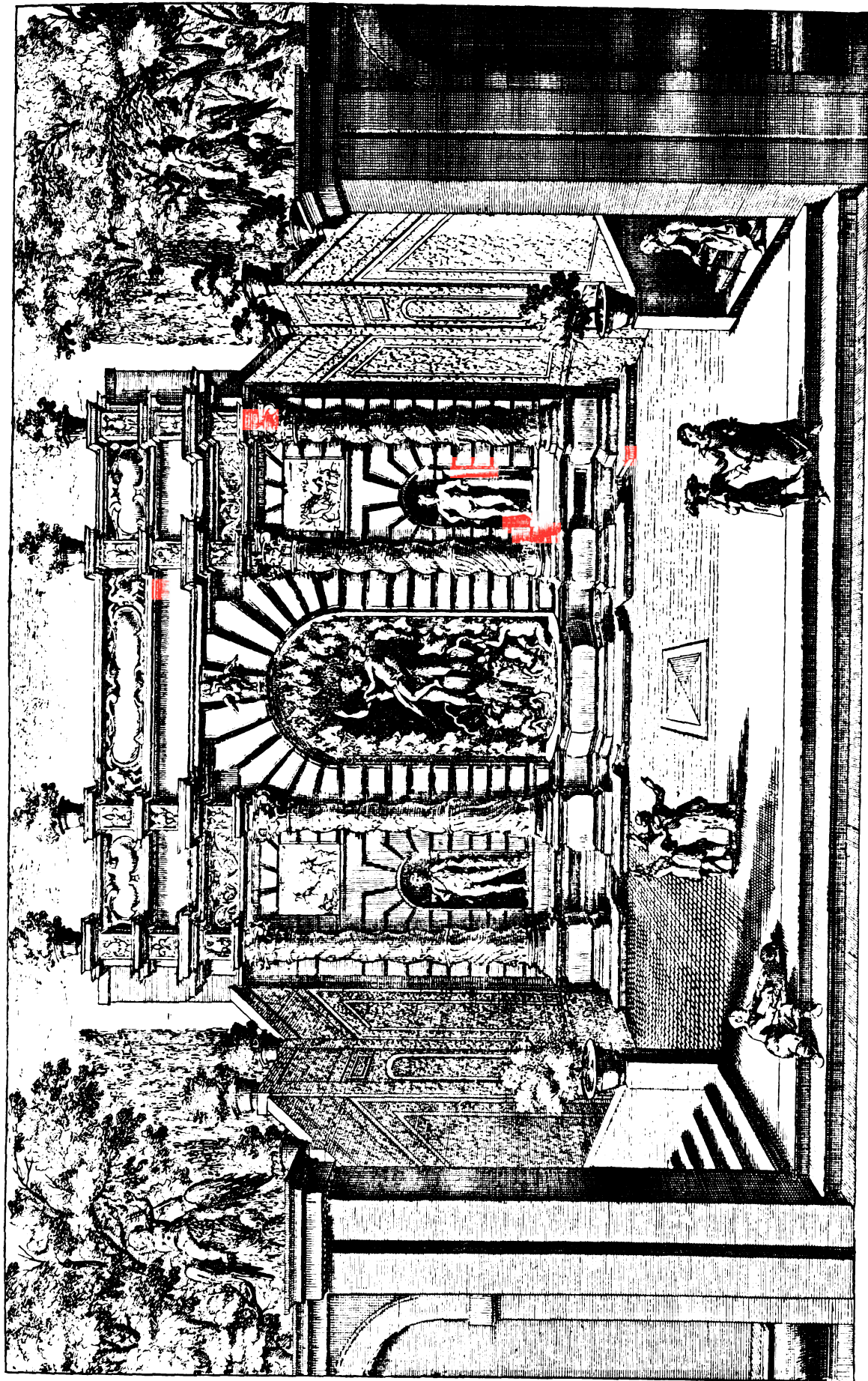
Other improvements took place after a visit of the hereditary Prince of Modena and his wife in 1721. The steward, Sig. Settimio Bulgarini, discovered the existence of a row of fountains on the east of the villa (the *fontanini*) which had up till then been covered up.

An inscription intended to be set up in the honour of these distinguished visitors is given by the *Fontaniere*.^b

^a The two statues on the edge of the balustrade which in pl. 4 face the villa, are shown in pl. 17 looking the other way.

^b It is not mentioned by Seni, who (p. 161) passes over the first half of the eighteenth century almost entirely, only quoting a letter of Bulgarini of 1736; and I do not think it was ever set up. The text runs as follows:

"Serenissimis Francisco Maria Estense, et Carlotta Aurelianense Principibus Mutine/ ex fausto ad Urbem accessu, in hanc Villam divertentibus/ fontes hi, et alii complures/ quorum vix memoria supererat/ in pristinum statum restituti/ Serenissimo Raynaldo Estense Mut(inae) Reg(e) Mirandule Duce/ Anno Salutis MDCCXXI."

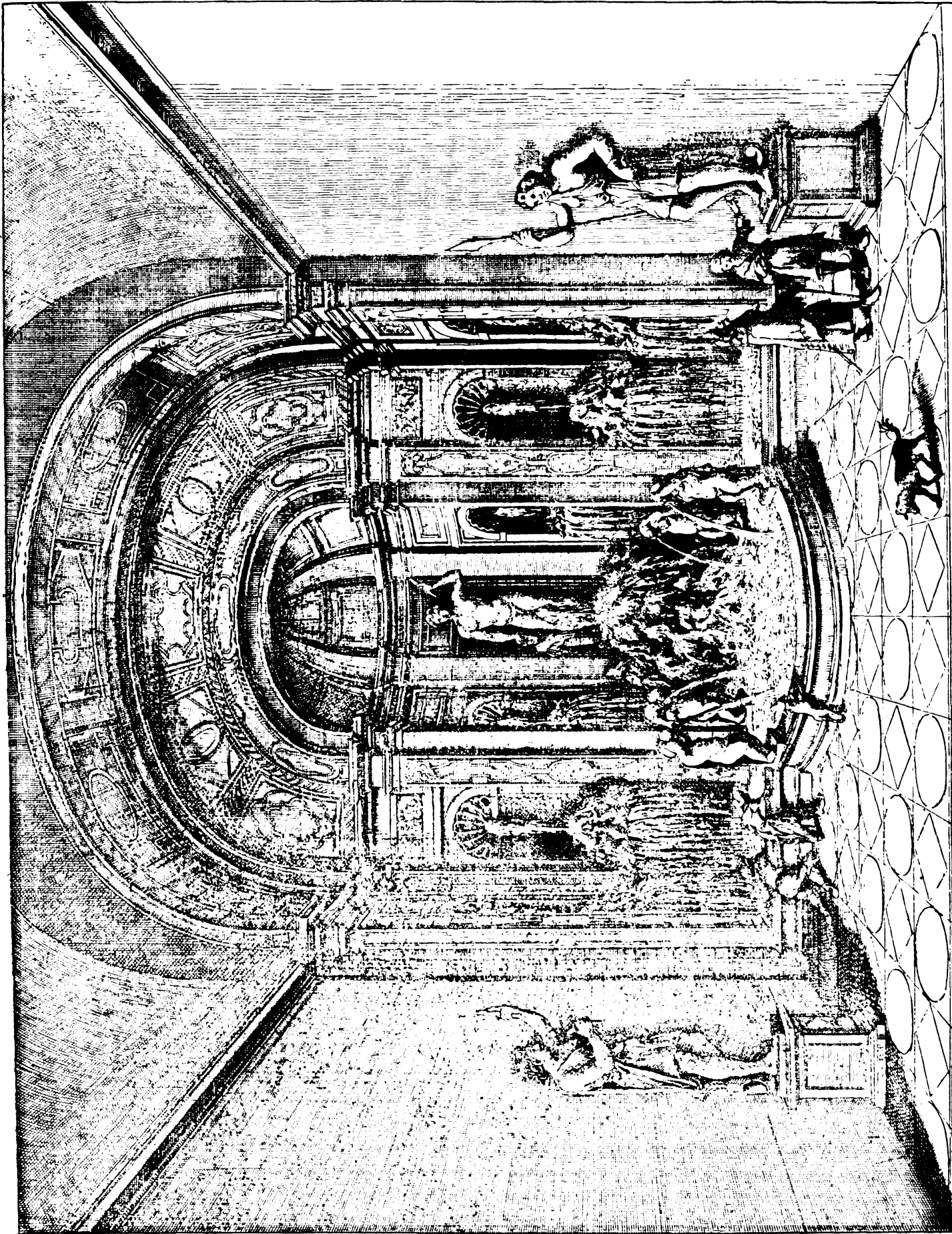


FONTANA DI PROSERPINA CONTIGUA A QUELLA DELLA CIVETTA NEL GIARDINO ESTENSE IN TIVOLI

Gio. Francesco Venturini del. et Sculp.

VENTURINI'S VIEW OF THE FOUNTAIN OF PROSERPINE, VILLA DESTÉ.

Published by the Society of Antiquaries of London, 1908.



FONTANA DI BACCO IN UNA STANZA CONTIGUA AL FONTANONE NEL PIANO DELLE FONTANELLE

Gio Francesco Venturini del et inc.

Gio Giacomo Rofiti la stampa in Roma alla Pace con Pruu. del s.p.

VENTURINI'S VIEW OF THE FOUNTAIN OF BACCHUS, VILLA D'ESTE.

Published by the Society of Antiquaries of London, 1908.

Some of the statues which were considered too valuable to stand in the garden were, in course of time, removed to the interior of the villa. Thus the two Amazons, which in 1665 had been placed in the Fontana di Bacco, where Venturini (see Plate XXXII.)^a shows them (though the one drawing the bow is very badly represented, while the one with the staff is shown reversed) had by 1725 been removed to the Salone, and their niches in the Fontana di Diana were occupied by the two Cupids $5\frac{1}{2}$ palms high, which Del Re saw in the *sala grande* of the upper story of the villa. The statues of the niches under the balustrades on each side of the fountain of Leda and several others were removed to the interior of the palace between Croce's time (1664) and 1725, and in their place were put two putti.^b The Bellona and the Ione were also removed, as it would seem.

In the loggia too, near the statues of the four seasons, which Del Re (33 *ad fin.*) mentions as being of peperino covered with stucco, while the *Fontaniere* speaks of them as marble, "Cardinal Rinaldo placed a statue of _____ in black marble 12 palms high, with the arms and hands outstretched, and the hair scattered and curling, representing _____" (*Fontaniere*, p. 47—the blanks are in the original).

In any case the statue is not one of those mentioned by Del Re, and it is difficult to determine what it may be.

Venturini (see Plate XXXIII.) shows in the fountain of Venus in the room at the east end of the palace, on the level of the Giardino segreto, the recumbent statue of Venus, though the stag is not visible, and the two fountain statues of women mentioned by Del Re;^c and on the seats there are also two busts, no doubt two of those from the lower corridor, or the room where the statue of Senta Fauna stood. The *Fontaniere* (p. 60) mentions no busts there, but besides those enumerated by Del Re, he saw there a group of many statuettes representing the River Nile; two small but very valuable satyrs of white marble; a table of white marble; and he adds "various ancient friezes sculptured with grapes, vines, and birds, with some bas-reliefs collected in this room increase its interest" (p. 60). These last are not mentioned by Del Re.

In the niches on the stairs halfway up were placed a Jupiter, $7\frac{2}{3}$ palms high,

^a The fountain is in a room on the level of the great Fontanone, or Fontana dell' Orato. The engraving shows the Bacchus in the niche described by Del Re, p. 51 (Appendix B), and the four putti of Inv. 1572, 16-19, though the "masks" are not visible, nor are they mentioned by Del Re.

^b *Fontaniere*, 49.

^c P. 26 (*cf.* Inv. 1572, 49, 50; and Appendix B).

leaning on the left arm, which is resting on a pilaster, and all draped except the arms, and a draped Bellona. The latter is that which stood on the east of the fountain of Leda,^a but the former does not occur in any of the previous descriptions.

In the *Sala* on the upper level, that of the *cortile*, were eight statues,^b placed there by Cardinal Rinaldo before 1678, as is shown by the anonymous description of that year cited by Seni:^c

- (1) A standing Venus, that seen by Del Re (p. 26) in the Giardino Segreto, with a dolphin at her feet, and an amorino riding on it.
- (2) The Venus leaving the bath, which was already in the *sala* in Del Re's time (p. 12).
- (3) Ceres with the torch, from one of the lateral niches under the balustrades (Del Re, p. 31).
- (4) A Vestal Virgin from the same place.
- (5) Saturn, from the stairs (Del Re, p. 17).
- (6) Jove, with the eagle, from the same place (Del Re, p. 17).
- (7 and 8) The two Amazons (Del Re, p. 41).

Two large tables of *giallo antico* (Numidian marble) were also to be seen there.

Upon the balustrade above the main entrance from the garden, four statues, each 5 palms high, had been placed:^d a youthful Venus, that seen in the fourth room to the west by Del Re (p. 14); a faun and a Pan, seen in the *Sala* by Del Re (p. 13); and a curly-haired boy with a dog (*ib.* p. 14).

The description by the *Fontaniere* of 1725 still shows us the villa in all its glory; and the attempts to sell the villa and its artistic treasures did not begin until the middle of the eighteenth century.^e

^a Del Re, 30.

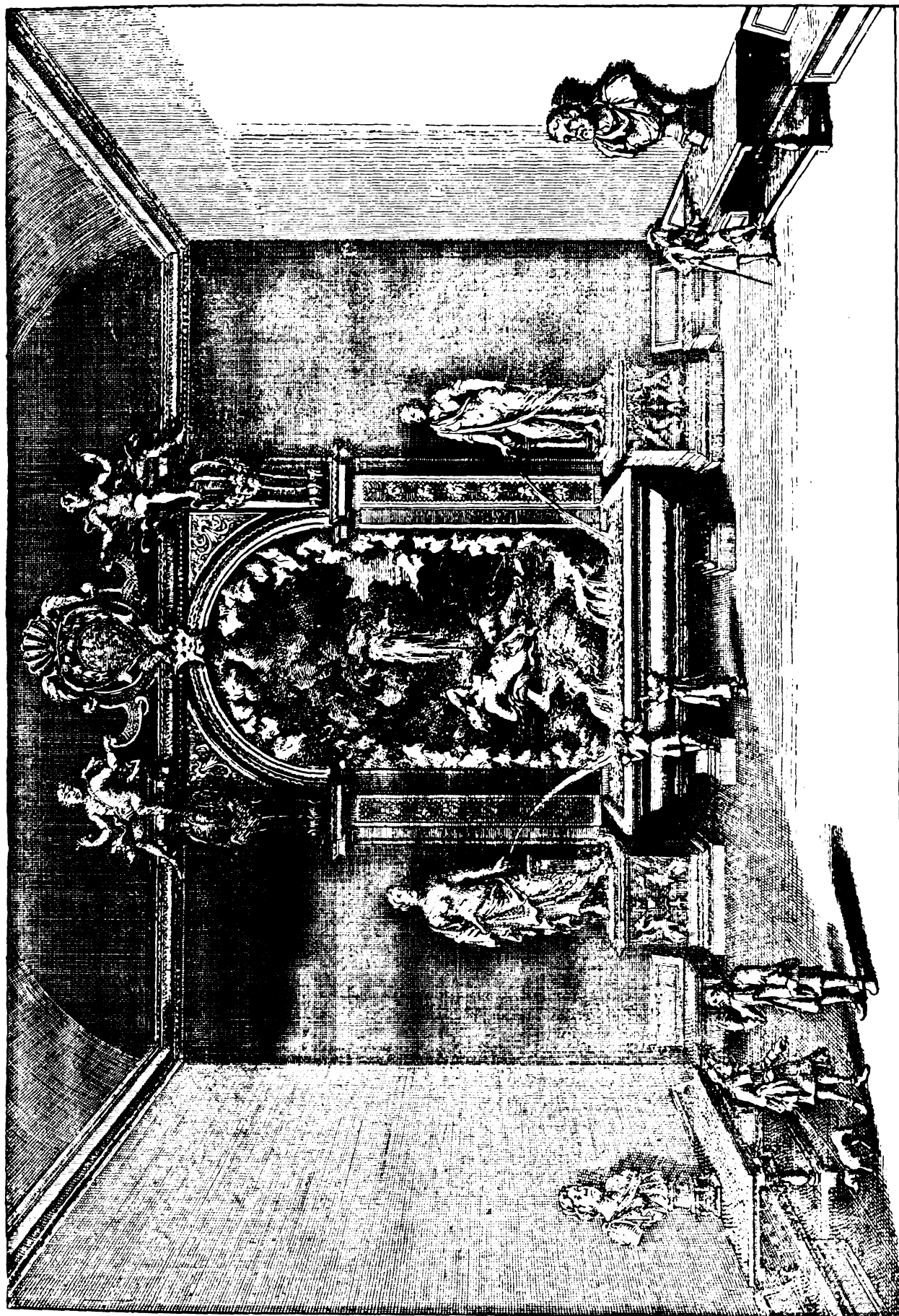
^b *Fontaniere*, 63.

^c *Op. cit.* 261.

^d *Fontaniere*, 66.

^e Seni, 161 *sqq.*

To those mentioned by Seni I may add the following, copied from a fragmentary MS. diary, and under date 14th October, 1752, which I saw in a sale at the Libreria Romana in December, 1907 (No. 677 of the catalogue): "Siccome la Villa d'Este in Tivoli era stata posta in vendita sin dal tempo che il Sereno Duca di Modena era passato in Francia (1743) così penetrasi che ora ne abbia formato trattato il Sig. Principe Ruspoli per farne compra quando potrà convenirsi del valore."



FONTANA DI VENERE IN VNA DELLE CAMMERE VLTIME DEL PALAZZO

Gio Giacomo de Rossi le stampa in Roma alla Pace con Pruu del S. Pont.

Gio Francesco Venturini del. et sculp. 6

VENTURINI'S VIEW OF THE FOUNTAIN OF VENUS, AT THE EAST END OF THE PALACE, VILLA D'ESTE.

Published by the Society of Antiquaries of London, 1908.

Negotiations were entered into with the King of Naples, and the documents are preserved under the title of *Carte attinenti al contratto delle Statue* in Busta 72, of the Archivio di Stato at Modena.

His offers were, however, not sufficiently high, and after considerable negotiation a far better offer made by Cardinal Valenti on behalf of Pope Benedict XIV. was accepted, fourteen pieces being sold for 5,000 scudi, or about the price that the king had offered for the whole collection. Two inventories relating to the transaction exist.^a (See Appendix D.) The latter, containing twelve statues, a *tazza* of *africano* and a basin of white marble, was the one which was eventually acted upon;^b and all the statues which occur in it^c are now in the Capitoline Museum. They include some of its best known treasures, the marble faun after Praxiteles, the Cupid, the two Amazons, the Psyche, etc. Where the *tazza* is I do not know: the upper part of the basin at least is in the Vatican.

It is noticeable that the Cupid, valued at 2,000 scudi (Capitol, Galleria 5), is not mentioned in any of the descriptions of the villa previous to this date.

An Egyptian statue valued at the same price is mentioned only by Croce, *op. cit.* 49, "nel fin poi del vial verso l'ocaso una loggia vedrai, doue si goda sotto l'arco a man destra entro al suo seno un Idolo assai vago di marmo de l'Egitto," and in the following passage of a diary of Diego Revillas which I purchased at the sale of the library of Costantine Corvisieri (under date September 30th, 1728): "Nella villa d'Este . . . e da osservarsi l'antica statua gigantesca di basaltide egizio, collocatta [*sic*] sotto di una gran loggia, e già ritrovata nella villa di Adriano, senza la testa: la quale poi due anni sono fu ritrovata nelle vicinanze della medes (ima) villa di Adriano dal S^{re} Lolli insieme con altre molte teste, e vari pezzi antichi." ("In the villa d'Este . . . is to be observed the ancient gigantic statue of Egyptian basalt, placed beneath a great loggia, and found formerly in the villa of Hadrian, but without the head, which was found two years ago by Sig. Lolli, with many other heads and various ancient fragments.")^d

^a Seni, 263 *sqq.*

^b A postscript mentions a Mars and three *liberti pileati*. The former may be identical with the Mars of the inventory of 1572, No. 46 (now Ince 43), but the latter three I cannot account for.

^c Except the Venus, which was there at least up till 1830 (No. 8 in the Salone), but disappeared between that date and 1834, as can be learned from a comparison of the editions of Tofanelli's guide of those years, and the Egyptian statue, which was transferred to the Louvre by Napoleon, and was never sent back to Rome. The Venus might be identified with one now on the roof of the Sala Rotonda at the Vatican, with which it agrees in type and measurements, were it not that this has the original left leg, whereas both Cartieri and his annotator state that this was partly restored.

^d For Lolli's excavations *cf.* Winnefeld, *op. cit.* 9, 153; Crocchianti, *op. cit.* 237; Bulgarini, *op. cit.* 128.

That the price actually paid was only 5,000 scudi is stated by Dall' Olio,^a who cites the order for payment dated 25th May, 1753. His other statements are similarly authenticated. Justi^b makes the same statement, but quotes no authority.

The statues mentioned in the first inventory which do not recur in the second are: a "Statue of Abundance," with the head and hands of white marble and the drapery of gray, probably the so-called Senta Fauna or Bona Dea of Del Re, 21, though her drapery is described as black; a damaged statue of a Faun (the second in the Giardino Segreto);^c a Cupid less perfect than that purchased; the Hercules and Telephus group; the seated Jupiter from the stairs, 10 palms high (Ince 2); and a seated nymph, damaged.

The contemporary inventory of Cartieri (1752-3, the exact date is not given) contains, as Bondigli, the Secretary of State to the Duke of Modena, complains in a letter quoted by Seni,^d a very adverse judgment on most of the pieces, and the prices, with the exception of those assigned to the Meleager, the Queen of the Amazons, the Cupid, and the Egyptian statue, are very low, as will be seen in Appendixes B, C, and D. To some of these, indeed, which are now at Ince, the Anchryrrhoe and the Cybele (Inv. 1572, 58 and 40), he refused to assign any value, and some of them he considers modern, *e.g.* the Venus, the Venus with the Dolphin and Cupid, the standing Jupiter, and the Minerva (Capitol, Salone 36), which last he attributes to the school of Michelangelo! At the beginning of the inventory his statements have been corrected in the margin, and he appears to have been an incompetent person. His descriptions of the fractures is, however, interesting, and the statues do appear to have been in a somewhat bad state; the Psyche and the unicorn, indeed, had been painted yellow, which naturally did not improve their value! On the other hand, we find him stating that the two river-gods on each side of the Sibyl of Tiber, above the great Fontanile dell' Ovato, are works of marble, whereas they are, like the Sibyl itself, of travertine, stuccoed, and pricing them at 1,000 scudi the pair.

Those statues mentioned in the inventory of Cartieri, which I have not yet identified, are:

No. 11. Ideal recumbent statue at the fountain of Leda, too much damaged to be priced (probably one of the recumbent Venuses).

No. 23 (if ancient). A river-god of marble, behind the waterfall, not examined (in the Teatro).

^a *Regio Palazzo di Modena* (Modena, 1811), 32.

^b *Winckelmann*, ii.² 27.

^c Inv. 1572, 63.

^d P. 165.

- No. 42. Bacchus, with his right hand leaning on a rock placed upon a tree-trunk. The skin of an imaginary animal (*una pelle ideale*) is across his shoulders; his left hand is wanting (20 scudi). Perhaps Inv. 1572, 47 or 84.
- No. 44. Large bust of Hadrian, draped, with the nose, and a little more, broken (20 scudi). Cf. Inv. 1572, 93-99.
- No. 48. Bust of Lucius Verus, draped, the head replaced on the bust, and pieces of the face (15 scudi).
- No. 55. Bas-relief from a late sarcophagus, 1.78 m. long, with various figures, fragmentary (8 scudi).
- No. 56. Part of a sarcophagus, about 1.56 m. long and 0.50 high, with a vase from which a grape-vine springs (10 scudi).

Even after Benedict XIV. had purchased the best pieces in the collection, there still remained in the villa a considerable number of statues, some of them works of some merit. Of these Winckelmann picked out an Æsculapius (Inv. 1572, 35), a philosopher, a river-goddess (Inv. 1572, 37; now No. 590), and a small Nile,^a which, on his recommendation, Cardinal Alessandro Albani bought from the agents of the Duke of Modena in 1765. "Shortly afterwards," Pannini and Zoboli, who had served as intermediaries in the Pope's purchase, inventoried sixty-five statues, valued at 8,195 scudi."

Some of these seem from the authority quoted in the footnote^c to have passed into the hands of the Roman dealer Giuseppe d'Este.

From d'Este they passed into the hands of Jenkins, the well-known English dealer, from whom Blundell and Smith Barry bought for Ince and Marbury

^a *Fontaniere*, 60. The philosopher is perhaps No. 202 in the Glyptothek at Munich. Dall' Olio (*loc. cit.*) tells us that the price paid for the four was 1,260 scudi.

^b The authority is Justi, *Winckelmann*, ii.² 27, who, as usual, quotes no documents.

^c A note on a loose piece of paper enclosed in the description by the *Fontaniere* and bearing the signature of the sculptor Antonio d'Este, remarks that the seventy-five articles therein noted (I made the exact total to be seventy-seven) may serve for comparison with the statues mentioned in the description of Fabio Croce, and with the others bought by the writer's deceased father in 1780.

Seni (p. 176) mentions this estimate of the value of the villa and its contents, which was placed at 78,963 scudi, while that of the statues and furniture only was only 787 scudi! (p. 167 n.). He cites, however, a letter of March 6th, 1779, showing that Pierantoni was offering 900 scudi for three of the statues (*Arch. Stat. Mod. Busta*, 72.); and dall' Olio (*op. cit.* 34) informs us that these were bought by him, and were as follows: a woman leaning against a pillar, a nymph with a vase on her shoulders (Inv. 1572, 57 ?), and a seated Jupiter (Inv. 1572, 9 ?).

respectively. Michaelis^a wrongly cites Justi^b as an authority for this statement, which is really due to Dallaway.^c Those which Michaelis mentions as at Ince and recorded as coming from the Villa d'Este are as follows :

- Jupiter (No. 2. Inv. 1572, 64);
- Juno (No. 3. Inv. 1572, 43 (?));
- Mercury with the purse (No. 28. Inv. 1572, 86);^d
- Anchyrrhoe (No. 37. Inv. 1572, 58);
- Cybele (No. 42. Inv. 1572, 40);
- Mars (No. 43. Inv. 1572, 46);
- Boy and swan (No. 45);
- Julia Pia? (No. 52. Not identified);
- Hare (No. 78. Inv. 1572, 59);
- Head of a water-god (No. 123. Not identified);
- Sarcophagus of the winds (No. 221. Not identified);
- Sarcophagus; fight with wild beasts (No. 393. Inv. 1572, 74).

At Marbury there is the seated Zeus (Inv. 1572, 9).

In 1774 seven of the statues which still remained in the villa were removed from Tivoli to Rome, and there restored at the cost of 165 scudi. Six of them (we are not told the fate of the seventh) were sent by sea to Ancona for Modena, where Duke Francesco III. intended them to adorn his villa at Sassuolo.^e The ship, however, was wrecked off Ischia; five of the statues were recovered in 1775, and reached Modena in 1776. After having been restored there by Sebastiano Pantanelli, they were dispatched to Sassuolo. A few years later Duke Ercole III., when completing the façade of the palace at Modena, sent for four of the statues that had been sent to Sassuolo, and placed them on the balustrade. They were removed in 1807, and placed in the royal garden in 1811. They are now on the stairs of the palace according to Strafforello.^f They

^a *Ancient Marbles in Great Britain*, 79. n. 195.

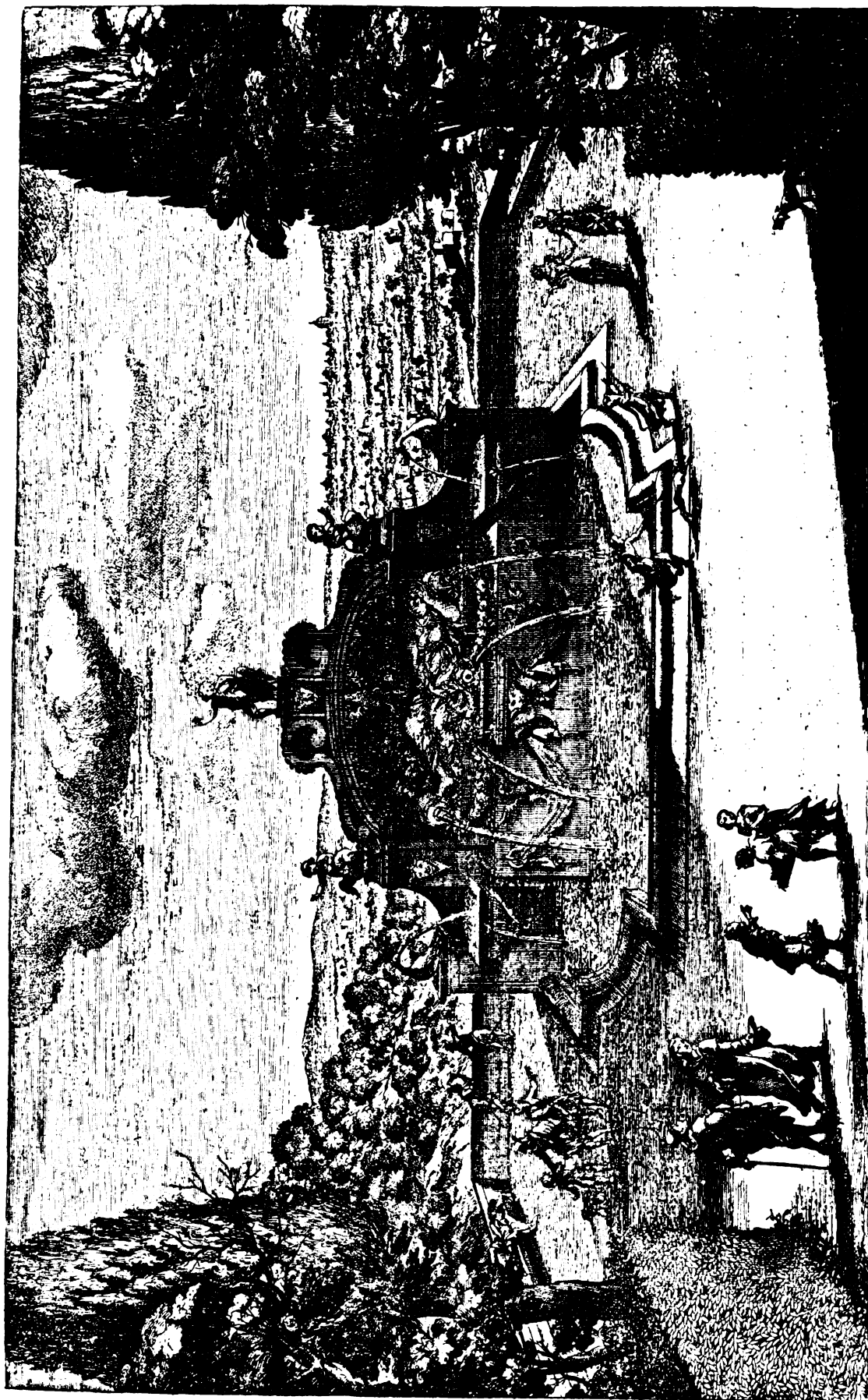
^b *Loc. cit.*

^c *Of Statuary*, 352 (Michaelis, *op. cit.* 334).

^d Not. Inv. 1572, 87, the one noted by Del Re, which has no drapery on the shoulder.

^e The museum at Cataio, near Battaglia, not far from Padua, was founded by Tomasso Obizzi in 1789 and following years, and left by him to the house of Este in 1805. It is therefore improbable that we should find in it any statues from the Villa d'Este, unless any that had been conveyed to Modena (where none from the Villa d'Este, indeed hardly any statues at all, are mentioned by Dutschke, *Antike Bildwerke in Oberitalien*) were taken to Cataio to swell that collection. For it is, indeed, the case that the Obizzi museum was transferred by the Archduke Maximilian to Vienna, and returned to Modena in 1822. (*Documenti inediti*, ii. p. xv.) A glance through Dutschke, however, does not reveal any promising identifications.

^f *Geografia dell' Italia* (Provincie di Modena e Reggio nell' Emilia, 45).



FONTANA DE CIGNI, CON STATVA DI NINFA, CHE DORME NEL PIANO DEL GIARDINO

Gio. Francesco Venturini del. et inc.

VENTURINI'S VIEW OF THE FOUNTAIN OF THE SWANS, VILLA D'ESTE.

Published by the Society of Antiquaries of London, 1908.

were a Venus (a copy of the Medicean, identifiable with Inv. 1572, 85, if it were not that Del Re gave the height as only 1 metre), a Bacchante, an Antinous, and a beardless Hercules, all of them of white Carrara marble, the first three 1·53 metre high, and the last 1·48 metre high. They are not certainly identifiable with any of those mentioned in the descriptions of the villa. What happened to the fifth statue, and what was its subject, we are not informed.^a

The sixth statue was not recovered from the sea until 1779, and was sent to Naples, and thence to Rome, where it was sold to Giambattista Visconti for 80 scudi, having been much damaged by the sea, and being a "statua consolare" (*i.e.* a male Roman portrait statue in a toga), and therefore not of much value. It might be Inv. 1572, 66 or 67, the fate of which is otherwise unknown to us.

Dall' Olio (p. 35) also says that Duke Ercole III. gave orders in 1787 that all the statues remaining should be sold. Ten statues and four heads of very little value were sold to Paolo Cavaceppi for 283 scudi in December, 1787, and twenty-five statues and some heads to Vincenzo Pacetti for 842 scudi in January, 1788. Through them several statues passed into the various Roman collections.

The Hercules and Telephus group (Inv. 1572, 25) was bought by Vincenzo Pacetti, and from him found its way into the Villa Borghese^b and thence to the Louvre. The representation of Clarac (plate ccii. No. 2002) agrees with the description of Del Re, and the representation of Venturini in plate 3 (not in plate 9, but he is apt to be careless); and the height (11 palms) agrees with the measurement of 2·437 m. given by Clarac.^c

The "spinario" (Inv. 1572, 2) may be identified with that in the Louvre (*Cat. Somm.*, 255; Reinach, *Répertoire*, ii. 142, 4), which also came from the Borghese collection, where the Leda (Inv. 1572, 42) still is.

Similarly the recumbent Hercules is identical with that in the Museo Chiaramonti (Clarac, 796, 1991—present number 733).

Whether there were any statues of any moment left after this seems doubtful.^d

^a Dall' Olio, 33.

^b *Monumenti Antichi Inediti*, 1788, 29.

^c The statue given by Furtwängler, *Masterpieces*, p. 85, fig. 33, is not the same.

^d The removal of some of the less important was certainly carried out somewhat carelessly; the recumbent Venus, for example, of the fountain of the swans (Inv. 1572, No. 8), seems to have been violently chiselled away from her base, a part of which still remains. Venturini's view of the fountain (pl. 26), with the two boys riding geese (Inv. 1573, 13, 14), is given as our Pl. XXXIV. The boy at the top with the swan is not mentioned by Del Re, or in other descriptions, but is identical with Ince 45. The boy eating a bunch of grapes of which Del Re speaks (not so shown by Venturini) is probably Vatican, Candelabri, 83A.

Among some letters acquired by me at the sale referred to above, and relating to the years 1812—1834, there is nothing about statues, though a few odd items may be mentioned.^a

Cardinal Albani seems to have represented the interests of the family in Rome in 1826, and this would account for the fact of the description of the villa of 1725, and these other papers relating to it, having come into his possession.

There is an interesting description of the terrible flood of 16th November, 1826, written on the 21st of the month to Vincenzo Constantini, Computista Generale dell' Amministrazione dei Lotti. The villa itself does not seem to have suffered, indeed it was too far removed from the falls. But the channel which conveyed part of the water of the Anio to the villa, and which had been made to supply its fountains, was rendered useless.

A description of it is given in a Relazione sent by Giuseppe Mantovani, the guardarobbiera, to Constantini, on December 21st, 1826.

It was one of five channels which served to supply the city of Tivoli, and the furthest up stream. Opposite to it, Bernini had, by the order of the house of Este, constructed a buttress to drive the water into the channel. It measured about 10 palms (2.22 metres) by 5 (1.11 metre), and it had a proper inlet sluice gate and a grating to keep dirt out; and above it was a small chamber. The result of the flood was to destroy the chamber, while the level of the river fell to such an extent that the mouth of the aqueduct was some 45 palms (9.90 metres) above the water level.

On 1st May, 1834, the gardener, Luigi Martini, wrote to Constantini describing the hurried visit of the Pope, Gregory XVI., to the villa on the 28th April, on his way to visit the factory in the Villa di Mecenate. He merely passed through going and returning, and though the fountains were turned on for his benefit, no one of his suite left any gratuity.

A plane tree fell on June 8th, 1834, in the Piazza dell' Organo, and damaged the balustrade.

The packet closes with two letters of December, 1834, in regard to the Campanile of S. Valerio, which had to be demolished with some other houses close to the river. A stemma of the house of Este in travertine stood upon it, and the gardener writes on behalf of Maria Mantovani (no doubt the widow and successor of the former guardarobbiera) on December 15th to ask what is to be done. It appears to have been placed there when the d'Este as governors of Tivoli

^a Another lot, even less interesting. I did not purchase.

brought a supply of water to the fountains, one of the fountains being close by. It was promised that either it should be placed on the reconstructed Campanile or in the comunità or communal building.

It will be seen from the foregoing account of the sculptures which the villa contained in the sixteenth century that practically nothing now remains there; the only pieces I have been able to find are the recumbent Venus in the niche of the fountain of the courtyard, the oval sarcophagus with strigil ornamentation which serves as a basin, and the head of Constantine above it.* There is also, near the fountain with the representation of the buildings of Rome, a small seated male figure 38 centimetres high, without the head, which looks as if it had recently been broken off, and with the left hand resting on the head of a dog. This is not mentioned by any authority I have consulted.

Since the death of Cardinal Hohenlohe (who had rented it since 1859) in 1896 the villa has remained untenanted; some of the fountains still run, but the whole has an air of picturesque and beautiful, but melancholy, desolation. The foregoing pages are an attempt to conjure up some image of its former splendour.

ADDENDUM.

Seni, p. 38 *fn.*, quotes from Busta 70 in the Archivio di Stato at Modena a list of statues entire and finished, which are to be carried to the statuary store (statuario) of Monte Cavallo, including "a large Lion of marble and a Cerberus in the garden of Paolo del Bufalo, which have been paid for, and are to be used at Tivoli." Another list in the same Busta of statues which "can be finished while the Cardinal is away from Rome," includes a mention that "M^{ro} Andrea, the sculptor, has two statues, one of Antinous and the other of Hercules, of black marble, which are ancient and very fine; the Antinous can be used for the loggia at the upper end of the fish-ponds at Tivoli (No. 26 in the view of 1573 is indeed 'Fontana d'Antinoe,' and occupies precisely this position) and the Hercules will be placed in the grotto of Venus."

Of none of these four statues can I find any record that it actually reached Tivoli.

* Del Re, 8, 9.

APPENDIX A.

THE INVENTORY OF 1572.

Firstly, in the lower apartment on the level of the courtyard :

In the first room :

- Modern.^a A statue of the Nile in stone, headless.
M. A rustic statue without arms and head.

In the second room :

1. A sleeping Venus.^b

Apartment of the Cardinal of Ferrara :

In the Gallery :

2. A statue of the boy extracting a thorn, of marble, entire.^c

In the lower apartment of the palace :

In the hall of the small fountain :

- A small fountain decorated with mosaic, with—
3. A statue of marble, entire, called a Faun.
4-6. Three heads with the bust, of white marble.^d
7. A black head with a white bust of marble.

In the large garden :

8. A Venus draped and recumbent, entire.^e

At the entrance to the garden :

9. A statue called Jove; the hands are wanting.^f
10. A torso of a draped woman.

In the grottos under the fountain of the Flood :

- M. An eagle of travertine.
M. A wolf with Romulus and Remus.
M. A Goddess of Nature in the fountain of the Flood.

In the oval fountain :

- M. The Albunean Sibyl with a child in travertine, draped.
M. Two rivers of travertine.
M. Ten nymphs of peperino in the oval fountain.
M. Two nude Bacchuses, entire, of marble, standing, with tree-trunks^g and a vase which throws water under the arm, in the rustic fountains.^h
11. A statue of marble, draped, without head and arms, at the door of the grottoes.
M. A Nereid (?) of travertine in a shell of travertine.

In the grotto of Venus :

- 12-14. A nude Venus of marble with two small putti who sit on the ducks, of marble.ⁱ
15. A Spring of black marble with the head white and the arms white, with the cornucopia, entire.

^a Abbreviated as M throughout the rest of the inventory.

^b By exchange from the people of Rome in 1568 *una Venerina che dorme mezzo vestita* (Lanciani, *Storia degli Scavi*, ii. 82.).

^c This was excavated in 1566 and 15 scudi given to its finder, who was working for the Cardinal. (Venturi, 201.)

^d For two busts in the hall of the fountain at Tivoli a chest piece (*petto*) in marble was supplied in July, 1570, for a Septimius Severus on the 4th and a M. Aurelius on the 31st. (Venturi, 204.) The reference should be to two of these three busts—but *cf. infra*, 71, 92.

^e No. 30 in the plan of 1573 (Venus Cloacina (?)).

^f Zappi, 86^v.

^g *Trenta* is printed in *Documenti inediti*, *loc. cit.*, but makes no sense. I read "tronchi."

^h No. 16 in the plan of 1573. They are in reality of stone.

ⁱ No. 17 in the plan of 1573 (the text to which mentions also the four small putti). Zappi, 93 *med.*, who mentions four putti, two of them riding geese (swans according to Del Re). The latter are also mentioned in the inventory of 1568 (No. 22). Zappi describes the Venus as nude, holding her hands before her, and with her drapery on a tree-trunk (*sic*).

APPENDIX B.

THE DESCRIPTION OF DEL RE (1611) AND SUBSEQUENT AUTHORITIES.

Inventory of 1572.	Del Re.	Notes, including Name and Collocation (but only if altered) in Del Re's time, and size as given by him.	Fontaniere.	Inventory of Cartieri (1752-3), with estimated value.	Present Collocation.
No. 1	Page. 14	Corner room on courtyard level (1.44 m. long)	Page.	(25 ?) (10 sc.)	Vatican, Giardino della Pigna, 157 (?).
2	—	— — —	—	—	Louvre, Cat. Somm. 255 (?).
3	13	For this was substituted the statue of Senta Fauna. With this, and <i>infra</i> 48 (or 84) are to be identified the statues of a Faun and of Pan in the hall on the courtyard level, each 1.22 m. high	66 (balustrade of loggia at entrance to garden)	10 (no value)	
4	19 <i>sqq.</i>	Pertinax (?)	52	70 (60 sc.)	
5	„	Lucilla (?—but <i>cf.</i> 91 <i>infra</i>)	52	(47 ?) (12 sc.)	
6	„	Scipio or Sulla	52	49 (50 sc.)	
7					
8	70 <i>fin.</i>	At fountain on W. at bottom of garden (2.00 m. long)	25		
9	65	Fontanile dei Draghi (hands restored, with thunderbolt in left)	20	20 (20 sc.)	Marbury 1.
10					
11					
12					
13, 14	71 <i>init.</i>	At fountain on W. at bottom of garden (0.50 m. high)	25	—	(One of them) Vatican. Candelabri, 83A.
15	21	“Senta Fauna.” In hall of the small fountain (1.33 m. high)	53	50 (30 sc.)	

16-19. Four small nude putti of marble with four vases which throw water with masks, with their feet preserved.^a

20. A torso of a goddess draped, without head and without arms.

In the first room of the grotto :

21. A Terminus (herm) of black marble, headless.

22. A large marble head of colossal size.^b

23. A slab of porphyry.

In the second room :

24. A recumbent Hercules, entire, with the lion's skin under him, of marble.^c

25. Another nude Hercules with Achilles in his arms and a marble stag standing, entire.^d

M. A Rome of travertine.

M. The River Tiber of travertine, nude.

M. The four seasons of the year, of peperino, entire, are in the room.

26. A Mercury on the top, nude, of marble, entire.

In the grotto of Diana :

27. A Diana of white marble, entire, with the dog and the bow.^e

28. A Minerva of marble, entire, with the shield on her arm.^f

29. An Amazon with the bow, entire.^g

30. A Lucretia of marble, entire, with the spear.

Under the niche at the top of the stairs :

31. A nude Castor of marble.^h

Under the small loggia :

32. A draped statue of marble, entire.

33. A draped statue of Pallas, entire.ⁱ

34. A draped statue of Pandora, of marble, entire.^k

At the end of the Cardinal's walk :

35. An Æsculapius of marble, entire, with the serpent below.^l

36. An Egidia (*sic* for Hygeia) daughter of Æsculapius, draped, of marble, entire.^m

M. The horse Pegasus.ⁿ

At the end of the walk below the palace :

37. A statue of Ethis (*sic*—for Thetis) with a head of a sea-bull, of marble.^o

^a Two of them (?) bought for 13 scudi on May 25th, 1568 (Venturi, 202). Zappi, 93 *fin*.

^b This may be perhaps identical with the colossal head of Cybele, said by Penna (iii. 48) to have been found at Hadrian's villa, which was presented by Benedict XIV. to the Museo Capitolino (Atrio 18 until 1903, since then in the Palazzo dei Conservatori). This head, however, is not mentioned in either of the inventories in Appendix D.

^c Restored on 21st August and 22nd November, 1568 (Venturi, 202). Zappi, 100, *init*.

^d Restored 20th July, 1568, and again 25th October, 1570 (Venturi, 202, 204). Zappi, 100 *med*.

^e No. 18 in the plan of 1573. Zappi, 97^v *init*.

^f Zappi, 97^v *fin*. Restored 6th June, 1572, at the cost of 15 scudi (Venturi, 206).

^g One of these two was found on the Palatine and bought in 1570. Both, Zappi, 97.

^h Not Zappi, 99 *init*. (which was elsewhere).

ⁱ Zappi, 96^v *init*. Del Re describes it as having a thin robe down to the feet, a mantle on the back, sandals, the right hand raised, a long spear in the left, a helmet, and a chlamys (no doubt with the Gorgon's head) in front of the breast.

^k Found at Hadrian's villa. De Cavalleriis (who calls it Psyche), I. 24 = I., II. 43. No. 115 in the Inventory of 1568, where it is noted as in Rome ready to go to Tivoli. No. 10 in the plan of 1573. Zappi, 96 *fin*.

^l No. 8 in the plan of 1573. Zappi, 96 *init*. It is not either of the two statues of Æsculapius given by De Cavalleriis I. 20, 21 = I., II. 39, 40, as these do not tally with the description of Del Re.

^m De Cavalleriis I. 35 = I., II. 44. No. 8 in the plan of 1573. Zappi, 96 *med*.

ⁿ No. 15 in the plan of 1573.

^o No. 7 in the plan of 1573. Zappi, 98^v *init*.

Inventory of 1572.	Del Re.	Notes, including Name and Collocation (but only if altered) in Del Re's time, and size as given by him.	Fontaniere.	Inventory of Cartieri (1752-3), with estimated value.	Present Collocation.
No. 16—19	Page. 51	At the Fountain of Bacchus (near the Fontanile dell' Ovato)	Page. 7		(Two of them.) Vatican, Candelabri, 117, 119
20					
21					
22		— —	—	—	Capitol, Atrio 18 (now Conservatori) ?.
23					
24	45	Fountain in central line, below palace (2'45 m. long)	11 ? 37	26 (60 sc.)	Museo Chiaramonti, No. 733 (Clarac, 796, 1991).
25	44	Fountain in central line, below palace (2'45 m. high)	38	27 (30 sc.)	Louvre (Clarac, 302, 2002). Cat. Somm. 75.
26					
27	43	Fountain of Diana (1'95 m. high)	43	31 (60 sc.)	Capitol, Atrio, 52.
28	42	"Bellona" (2'22 m. high). Fountain of Diana	43	30 (100 sc.)	Capitol, Salone, 36.
29	41	"Amazon with the Bow" (1'89 m. high). Fountain of Diana	65 (in the hall on courtyard level)	7 (200 sc.)	Capitol, Gladiatore, 4.
30	41	"Queen of the Amazons" (1'89 m. high). Fountain of Diana	65 (in the hall on courtyard level)	8 (1,200 sc.)	Capitol, Salone, 19.
31	64 ?	A boxer at the Fontanile dei Draghi (?)			
32	30	"Ione," under the steps of the villa (1'70 m. high) ^a	62 (stairs)	63 (60 sc.) stairs	Capitol, Galleria, 52.
33	30	"Bellona," under the steps of the villa (1'78 m. high)	62 (stairs)	64 (35 sc.) (?)	
34	37	Fountain below terrace (2'11 m. high)	41	32 (60 sc.)	Capitol, Gladiatore, 6.
35	36	Fountain below terrace (2'30 m. high)	39	34 (30 sc.)	Louvre (Clarac, 293, 1148). Cat. Somm. 639.
36	37	Fountain below terrace (2'07 m. high)	40	33 (40 sc.)	Vatican. Reinach. Rép. II. 338, 2.
37	34	"Europa," E. end upper terrace (3'33 m. long)	46	35 (10 sc.)	Villa Albani, 590.

^a Del Re's measurement is wrong: the real height is 1'30 m.

- 38. A vase of cipollino marble.
- 39. A statue of the goddess Pomona, entire, of marble.
- 40. A draped statue of the goddess Cybele, of marble, entire.
- 41. A statue of marble turned into a butterfly.

Under the stairs of the palace:

- 42. A nude recumbent statue of Leda with the swan and a small putto.^a
- 43. A Helena, and ^b
- 44. A Clytemnestra of marble, draped, entire.^c
- 45. A nude statue of marble.^d

In the lower part of the loggia:

- 46. A nude Mars^e
- 47. A nude Bacchus^f } of marble.

In the lower corridor:

- 48. A statue of marble called a Faun, entire.
- 49, 50. Two draped statues of women in two fountains.
- 51. A head of Cæsar of black marble.^g
- 52. A head of a Faun.
- 53. A head called Julia.

^a Bought in 1566 for 18 scudi (Venturi, 200). No. 6 in the plan of 1573. Zappi, 98^v *fin*.

^b Zappi, 98^v *fin*.

^c Found at Hadrian's villa (?). Zappi, 98^v *fin*. *Not De Cavalleriis*, I. 39 = I., II. 45.

^d Zappi, 99 *init*. mentions statues of Castor and Pollux here; two also are shown in the view of 1573, and Venturi has three entries, in 1569 and 1570, of the restoration of a Pollux (pp. 203, 204) by Leonardo Sormanno, which was carted to Tivoli in 1571.

^e Zappi, 99 *med*. (Restored 22nd November, 1568 (?), Venturi, 202.)

^f Zappi, 99 *med*. It would appear that these statues occupied the niches where, in Del Re's time, 39 and 40 stood.

^g No. 79 in the inventory of 1568.

Inventory of 1572.	Del Re.	Notes, including Name and Collocation (but only if altered) in Del Re's time, and size as given by him.	Fontaniere.	Inventory of Cartieri (1752-3), with estimated value.	Present Collocation.
No. 38	Page.		Page.		
39	34	Loggia at W. end of villa (2.06 m. high)	47	38 (no value)	
40	33	Loggia at W. end of villa (1.93 m. high)	47	37 (no value)	Ince, 42.
41	27	"Cloto," private (or small) garden (1.67 m. high)	20 (niche at Font. dei Draghi)	18 (30 sc.) "Psyche"	Capitol, Galleria, 20.
42	28	Under steps of villa (1.45 m. long)	50	36 (20 sc.)	Villa Borghese 62 (Clarac, 413, 710).
43	31	"Vestal Virgin," under steps of villa (1.78 m. high)	64 (in hall on courtyard level)	4 (70 sc.)	Ince, 3 ? (Juno).
44	31	"Ceres with the Torch," under steps of villa (1.78 m. high)	64 (in hall on courtyard level)	3 (40 sc.) (Cleopatra)	
45					
46	—	— —	—	"About 9 palms (2.00 m.) high." Inv. 1752. Seni I.	Ince, 43.
47	—	— —	—	42 ? (20 sc.)	
48	13	<i>Cf. supra</i> , 3	66 (balustrade of loggia at entrance to garden)	9 (no value)	
49, 50	26	N.E. angle room, lower level (Venturini, 6)	60	53, 54 (30 sc. each)	
51	19	In the hall of the small fountain	—	46 (40 sc.)	
52					
53					
54	12	Hall on level of courtyard (1.85 m. high)	63	2 (60 sc.)	

In the grotto of the small garden :

- 54-56. A Venus with two Cupids with their bows, of marble.^a
- 57. A Myrtoessa of marble, draped, and a vase on her shoulder (?)^b
- 58. A statue of a Hirroe (Anchyrrhoe), draped, with a vase on her shoulder.
- 59. A hare of marble.^c

In the small garden :

- 60. A unicorn of marble, entire.^d
- 61. A nude Venus with a Cupid, standing, with a dolphin of white marble.
- 62, 63. Two nude Fauns at the end of the garden in two niches.^e

Half-way up the stairs :

- 64. A Jove of marble, nude, entire, with an eagle.^f
- 65. A nude Saturn of marble, entire, ancient.^f

On the landing of the stairs at the level of the loggia :

- 66, 67. Two draped statues of marble, entire, of two consuls.^g
- Four heads of white marble with their busts, viz. :
- 68. Commodus,
- 69. Vitellius,^h
- 70. Meleager,ⁱ
- 71. Septimius,^k and
- 72. One of black marble.
- 73. A statue of a nude recumbent Venus in the fountain of the courtyard, of white marble.

In various places in the palace :

- 74. A sarcophagus^l of white marble with two lions' heads.
- 75. A sculptured marble sarcophagus.

^a No. 21 in the plan of 1573. A Venus leaving the bath was transported from the house of Mo. Andrea to Monte Cavallo on (day not named), 1568, and another Venus given by Card. Borromeo from S. Prassede on 26th October (Venturi, 202, 203). A Cupid was bought for 15 scudi on 4th June, 1568, and 30 scudi paid on account of the Hercules and two Cupids on 20th November of the same year (Venturi, 202).

^b The copy has "farfalla," which makes nonsense; "in spalla" is probable, and occurs in the next entry. I read "in spalla" in the original.

^c Acquired on 2nd May, 1567, with the stag (Appendix C) for 10 scudi, 44 baiocchi (Venturi 201).

^d No. 3 in the plan of 1573.

^e A faun was bought in 1568 from the Abbot of S. Sebastiano at Rome, through the antiquary Stampa, for 46.40 scudi (Venturi, 201, 203) paid on 28th February, and 1st April.

^f Restored on 15th June, 1572, at the cost of 6 scudi (Venturi, 206).

^g One of these is probably the "Commodus" bought of Nicolò Staglia for 75 scudi early in 1565 (Venturi, 200).

^h No. 82 in the inventory of 1568 ("modern").

ⁱ Bought 1st April, 1561 (Venturi, 201, 203). (With it was bought a "small Nile," and a head of Alexander Mammaeus (*sic*) (unidentified), the price paid being 38.28 scudi.)

^k No. 86 in the inventory of 1568 ("modern").

^l "Pilo" (literally "pillar") may mean sarcophagus, or cippus—the latter is probably meant where it is expressly described as "square." In the case of 77 it probably means a fountain basin.

Inventory of 1572.	Del Re.	Notes, including Name and Collocation (but only if altered) in Del Re's time, and size as given by him.	Fontaniere.	Inventory of Cartieri (1752-3), with estimated value.	Present Collocation.
No. 55, 56	Page. 12	Hall on level of courtyard (1.22 m. high)	Page. 43 (Fountain of Diana)	28 (1,500 sc.) ; 29 (30 sc.)	55 Capitol, Galleria, 5.
57	63	Fontanile della Civetta (1.67 m. high)	17	12 (no value)	
58	63	Fontanile della Civetta (1.67 m. high)	17	13 (no value)	Ince, 37.
59	—	— — —	—	—	Ince, 78.
60	26	Private (or small) garden	61	59 (60 sc.)	
61	26	Private (or small) garden (1.85 m. high)	63 (in the hall on the courtyard level)	1 (110 sc.)	
62	27	Faun, with tiger skin, private (or small) garden (1.78 m. high)	—	41 (20 sc.)	Capitol, Gladiatore, 10.
63	27	Faun, with goat skin, private (or small) garden (1.93 m. high)	—	40 (20 sc.)	
64	15	(2.22 m. high)	64 (in the hall on the courtyard level)	6 (60 sc.)	Ince, 2.
65	17	(2.22 m. high)	64 (in the hall on the courtyard level)	5 ? (called Hercules) (100 sc.)	
66	11	Alexander Severus (2.06 m. high)	62	67 (80 sc.)	
67	11	Marcus Aurelius (2.15 m. high)	62	66 (60 sc.)	
68	10	"Septimius Severus"	62	65 (60 sc.)	
69	9	— — —	62	69 (60 sc.)	
70	10	— — —	62	68 (1,000 sc.)	Capitol, Fauno, 5.
71	10				
72					
73	8	(2.22 m. long)	69	—	Villa d'Este.
74	55	Sarcophagus, with battle of men and beasts, at Rome fountain (2.00 by 0.50 m.)	15		Ince, 393.
75					

- 76. A square marble cippus.
- 77. A basin of africano marble.
- 78. A circular vase of marble with three sea monsters.
Four tables with five tripods.

In the store room :

- 79. A small marble Satyr leaning against a tree-trunk.
- 80. A small Cupid of marble with a vase on his shoulders—a fountain statue.
- 81, 82. Two small putti of marble with shells on their heads.

In the open space above the store room :

- 83. A small nude Bacchus of marble, 4 palms high (0·889 m.).
- 84. A nude Faun of marble, entire.
- 85. A nude Venus of marble with a dolphin at her feet, entire.
- 86. A Mercury of marble with the purse in his hand and a garment on his shoulder, nude, entire.
- 87. Another small Mercury of marble, nude, entire, with the purse in his hand.
- 88. A mask of marble with a pedestal.
- 89. Another large mask in two pieces.
- 90. A small nude torso of marble.
- 91. A head of Faustina without the nose, of marble.^a
- 92. A head of an Antinous of marble, damaged.
- 93-99. Seven heads of white marble.
- 100. A small frieze of marble with two small masks and an eagle.
- 101. A round slab of serpentine.

^a Found at Hadrian's Villa 1st October, 1570 (4 scudi paid) (Venturi, 204).

Inventory of 1572.	Del Re.	Notes, including Name and Collocation (but only if altered) in Del Re's time, and size as given by him.	Fontaniere.	Inventory of Cartieri (1752-3), with estimated value.	Present Collocation.
No. 76	Page.		Page.		
77	5, 27	Loggia at top of stairs to garden (1.77 m. long, 0.67 m. wide)	50, 51		(Upper part.) Sala dei Busti, 312.
78	32	Fountain of the sea-horses	48		
79	14	Room at N.W. angle, upper level (0.56 m. high)			
80					
81					
82					
83	62	Rome fountain (1 m. high)			
84	13	<i>Cf. supra</i> , 3	66	9	
85	14	Room at N.W. angle on upper level (1 m. high)	66 (balustrade of loggia at entrance to garden)	—	Modena ?
86		—	—	—	Ince, 28.
87	62	Rome fountain (1 m. high)			
88					
89					
90					
91	19	"Lucilla"	52	47 ? (12 sc.)	
92	18	"Youthful M. Aurelius," lower corridor	61	45 (Antinous) (20 sc.)	
93	17	"Head of Claudius," lower corridor	—	60	} (18 sc.)
94	17	"Head of a Woman," lower corridor	—	61	
95	—	—	—	62	
96	—	—	—	44 Hadrian (20 sc.)	

Inventory of 1572.	Del Re.	Notes, including Name and Collocation (but only if altered) in Del Re's time, and size as given by him.	Fontaniere.	Inventory of Cartieri (1752-3), with estimated value.	Present Collocation.
No. 97	Page. —	— —	Page. —	48 Lucius Verus (15 sc.)	
98					
99					
100	55	"Fragments of friezes," Rome fountain	60 (fountain N.E. angle room, lower level)		
101					

NOTE.—I desire to express my thanks to Dr. W. Amelung for help in identifying several of the statues mentioned in the Inventory of 1572, given while this paper was passing through the press. Among them I may note especially the so-called Hygeia (Inv. 1572, 36), which owed its name to arbitrary restoration, as it is really an example of the type of the "Venus of Milo." After having been for some years removed from the Giardino della Pigna, it has now once more been replaced there.

APPENDIX C.

STATUES NOT MENTIONED IN THE INVENTORY OF 1572.

Del Re.		Fontaniere.	Cartieri Inventory, 1752 3.	Present Collocation.
Page. 9	Head of Constantine. Fountain in courtyard (No. 84 in the inventory of 1568)	70	—	Villa d'Este.
14	Curly-haired youth threatening a dog with a whip. Room at N.W. angle, upper level (1.22 m. high)	66 Balustrade of loggia at entrance to garden		
26	Recumbent Venus. N.E. angle room, lower level (1.67 m. long) Venturini 6	59	50	} sc. 60
26	Stag. N.E. angle room, lower level (Bought 2nd May, 1567. Cf. Inv. 1572, 59)	60	50	
51	Bacchus, nude, crowned with berries and ivy leaves	7	24 (70 sc.)	
54	Two statues with long drapery and helmets, above Fontana de' Draghi			
55	Fragment (hand and water skin) attributed to the statue of Hercules from his temple at Tivoli			
62	Bacchus	—	39? (20 sc.)	
64	Four nude male statues.* Fontana de' Draghi	21 16 Pluto and Proserpine 16 Two putti at this fountain	14-17 (50 sc.)	

* One of these, of a boxer, is mentioned by Zappi, 96^v *med.* Perhaps it is the Castor of the Inventory of 1572, No. 31. The Fontaniere calls it a valuable statue of a fighting gladiator. Possibly the other three are the "tre liberti pileati" of the Inventories of 1752-53 published by Seni.

Del Re.		Fontaniere.	Cartieri Inventory, 1752-3.	Present Collocation.
Page.				
		20 Seated female draped statue in niche at Fontanile dei Draghi	19 (10 sc.)	
		23 Two statues on balustrades below it (no particulars)		
		35 "Venus Cloacina"	25 (10 sc.)	
		47 * A statue in black marble (2.67 m. high), arms out- stretched, hair scattered		
		49 Two putti at the fountain of Leda		
		60 Statue of the Nile ^b Two small Satyrs	52 (12 sc.) 57, 58 (12, 5 sc.)	
		62 Jove, leaning with left arm, on a pillar, draped, arms bare (1.71 m. high) (on stairs)		
		66 Two tables of giallo antico		
		Egyptian statue (<i>supra</i> , p. 17)	43 (2,000 sc.)	Louvre (Clarac 307, 2585).
		Juno (but <i>cf. supra</i> , 43)	—	Ince, 3.
		Julia Pia?	—	Ince, 52.
		Head of a water-god	—	Ince, 123.
		Sarcophagus of the winds	—	Ince, 221.

* Probably one of a pair of statues of black marble, one presented by the Bishop of Narni, the other purchased, in 1568 (Venturi 202, 203). *Cf. Seni*, 38 *fn.*

^b *Cf. footnote to Inventory 1572, 70.* Cartieri describes it as about 0.67 m. long and 0.33 high, with several putti around the figure, and hieroglyphs on the pedestal, so that it could not be Clarac 749 C, 811 A. Amelung, *Skulpturen des Vaticanischen Museums*, i. 130, mentions it as now lost.

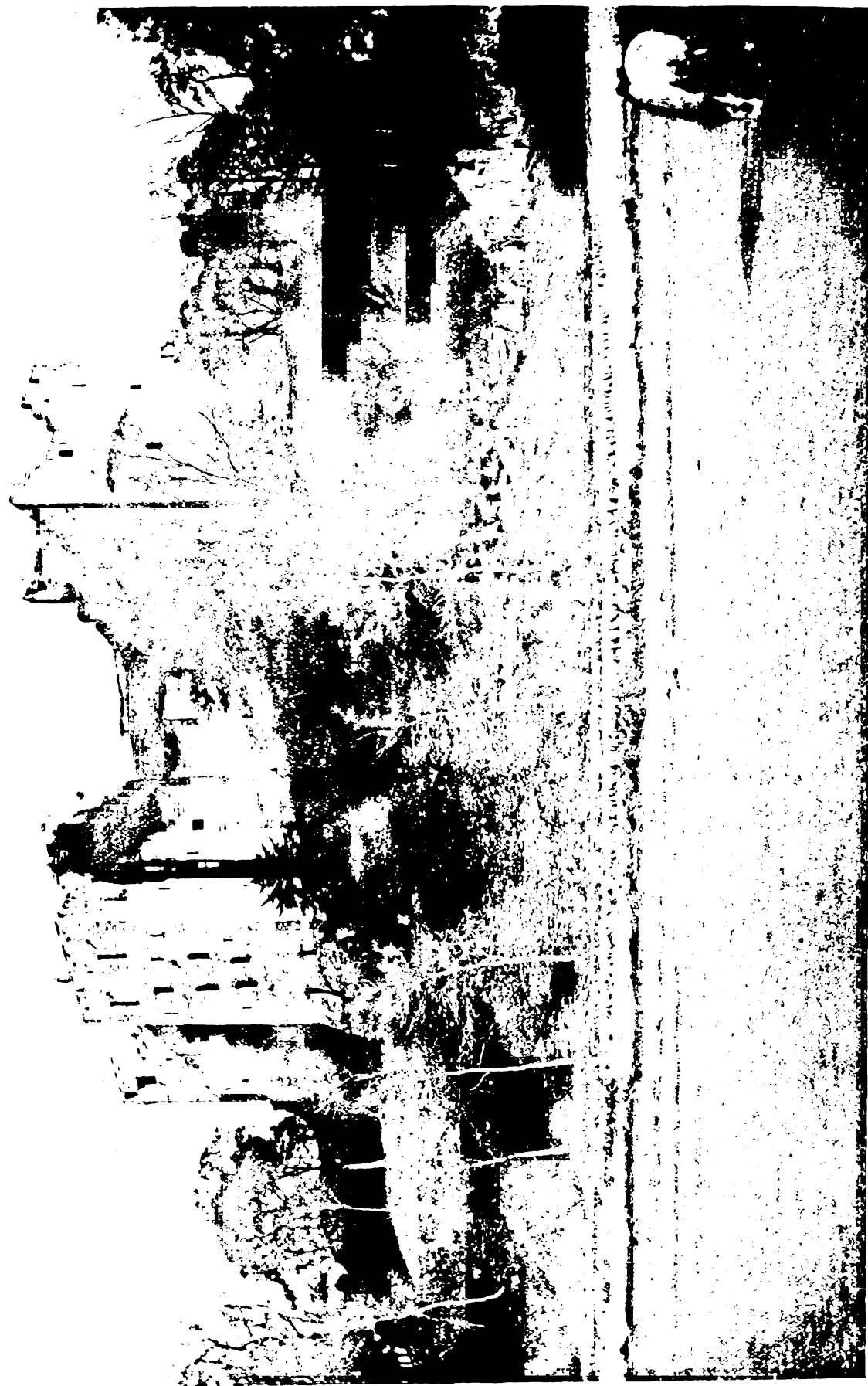
APPENDIX D.

THE TWO INVENTORIES GIVEN BY SENI.

No. in Inventory of 1572.	Inventory I.	Value in Scudi.	Value in Inventory II.	Value in Cartieri.	Present Collocation.
70	Meleager, bust	1,000	750	1,000	Capitol, Fauno, 5.
54	Venus	400	400	60	?
30	Amazon }	800	350	1,200	Capitol, Salone, 19.
29	Do. }		200	200	Capitol, Gladiatore, 4.
32	"Ione"	350	250	60	Capitol, Galleria, 52.
15	"Abbondanza" (Senta Fauna)	200	—	30	?
—	Egyptian statue	2,000	2,000	2,000	Louvre (Clarac, 307, 2585).
62	Faun	400	600	20	Capitol, Gladiatore, 10.
63	Faun	250	—	20	?
55	Cupid	2,000	2,000	1,500	Capitol, Galleria, 5.
56	Cupid (less fine work)	400	—	30	?
28	Pallas	1,000	800	100	Capitol, Salone, 36.
27	Diana	1,000	600	60	Capitol, Atrio, 52.
25	Hercules and Telephus	600	—	30	Louvre
34	Pandora	200	300	60	Capitol, Gladiatore, 6.
64	Jupiter	400	—	60	Ince, 2.
41	"Psyche" (somewhat damaged)	150	140	30	Capitol, Galleria, 20.
?	Seated nymph, similar (more damaged)	60	—	—	?
	Carried forward	11,210	7,693		

No. in Inventory of 1572.	Inventory I.	Value in Scudi.	Value in Inventory II.	Value in Cartieri.	Present Collocation.
	Brought forward	11,210	7,690		
46	Mars ^a	200	400	—	Ince, 43,
?	Three freedmen with caps (liberti pileati)	240		50	
77	Basin of africano	—	820	—	
78	Fountain basin with three sea-horses	300	350	—	Vatican, Sala dei Busti, 312.
		11,950	9,260		

^a The account of the purchase given by Dall' Olio (*see above*) omits all mention of the Mars, of the three liberti pileati, and of the basin of africano, and substitutes a table of giallo antico.



LUDLOW CASTLE. NORTH FRONT.
Published by the Society of Antiquaries of London, 1908.

VIII.—*The Castle of Ludlow.* By W. H. ST. JOHN HOPE, Esq., M.A.

Read 9th April, 1908.

OF all the numerous castles on the Marches of Wales none can compare with the Castle of Ludlow in importance of position, the extent of its remains, or the part which it has played in history.

For a long series of years it was one of the chief strongholds of the Earl of the March, and at a later period became the place where the courts of the Lords Marchers were held, and the Lords President had their seat.

Unlike so many other important fortresses the Castle of Ludlow survived the troubles of the Great Rebellion, and it was not until it ceased to be inhabited, through the abolition in 1689 of the Court of the March, that it was gradually dismantled and suffered to go to decay.

Even in its present ruined condition much that is left is singularly perfect, and the thorough stripping away of the ivy and other noxious plants which has lately been so wisely carried out by order of the Earl of Powis, who now owns the Castle, has revealed many features that have long been hidden from view and saved others from imminent destruction.

Although Ludlow Castle has been many times described, and forms the subject of one of the late Mr. G. T. Clark's excellent memoirs,^a it presents several interesting peculiarities which hitherto have not been explained, and which differentiate it in many ways from other castles of similar plan.

In Easter week, 1903, with the permission of the Earl of Powis, and by the help of several kind friends, who made themselves responsible for the cost, I was enabled to carry out such excavations as were desirable for the elucidation of the difficulties in question. These excavations were continued the following September and during several other pleasant holidays, for a large part of which I was joined by our Fellow Mr. Harold Brakspear. It thus became possible to carry out a further necessary and important work, an entirely new historical

^a *Medieval Military Architecture*, i. 273-290.

plan of the castle to a sufficiently large scale. For the drawing out of this from our joint measurements I am much indebted to Mr. Brakspear's kind help.

In addition to the planning, a written description, which forms the basis of the present paper, was made on the spot of the characteristic features of every wall-face within and without the Castle. They who have carried out a similar work will appreciate the insight which can only thus be gained as to the structure and architectural history of any ancient building.

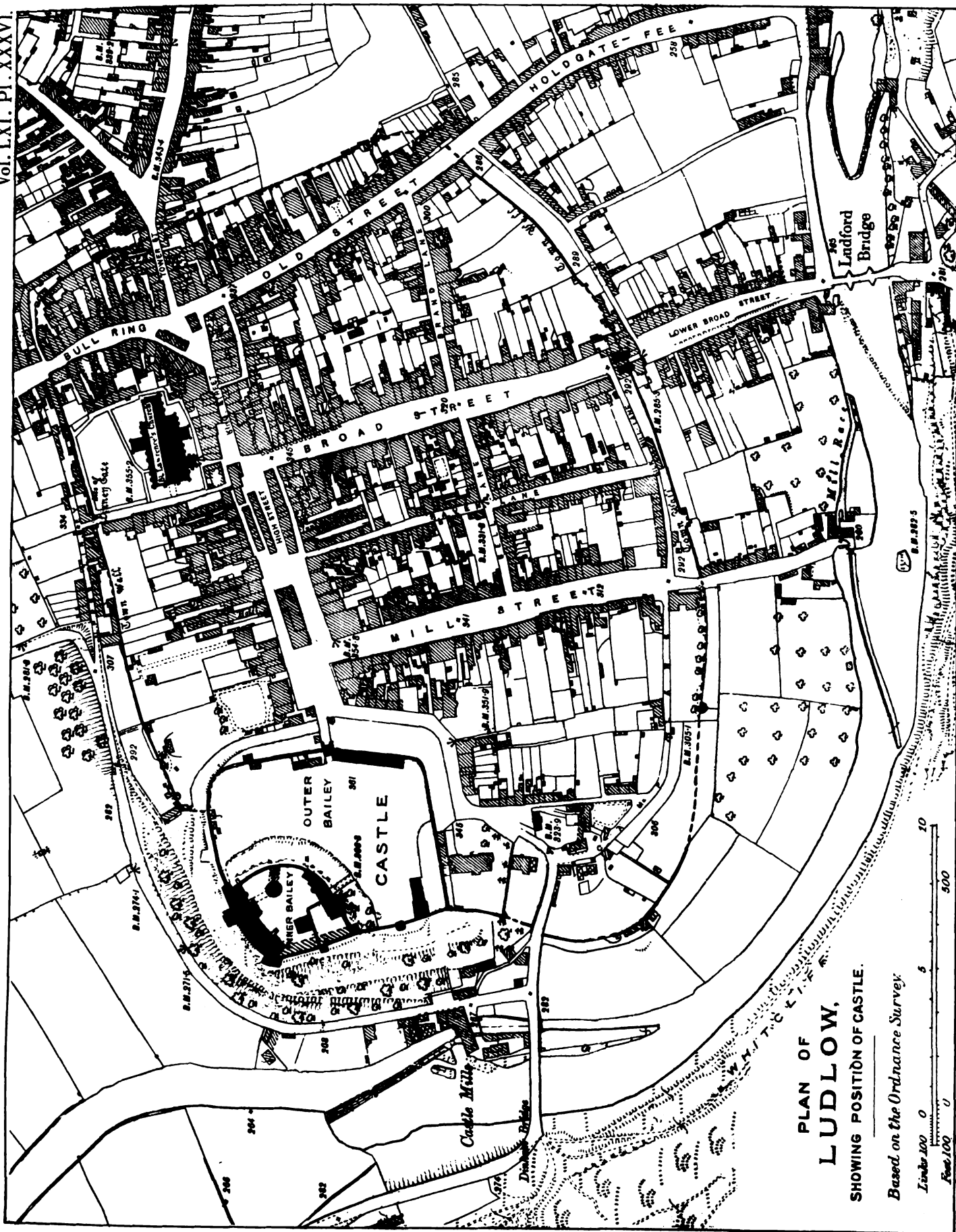
I am also indebted to the Earl of Powis, through Mr. R. H. Newill, for the loan of a valuable set of plans and measured drawings of the buildings in the inner bailey of the Castle made so far back as 1765, and of a general plan taken in 1811, showing the then lay out of the outer bailey and the general surroundings of the Castle.

Lastly, I have to thank Mr. Henry Weyman for the splendid series of photographs which illustrate this paper. Most of these were taken under my direction by Mr. Jones of Ludlow from tops of walls and points of view only accessible by means of ladders, with the special object of illustrating the architectural history of one of the most important and imposing fortresses in Britain. For the photographs reproduced in figs. 5, 6, and 23 I am indebted to Mr. C. H. Bothamley.

The town of Ludlow is just within the southern border of Shropshire, and is bounded on the west and south by the river Teme, which for a long time formed the boundary between Salop and Herefordshire. The Castle is placed at the north-east corner of the town, and on the highest point of the rocky hill on which it stands, just below the junction of the Teme with the lesser river Corve. The hill here rises to a height of about 100 feet above the low-lying land north of it, and is cut off by the river from the still higher ground called Whitcliff which overlooks the town on the south-west. The town is still surrounded to a large extent by the remains of its thirteenth-century wall, which abuts upon the Castle so as to include it in the defences. (Plate XXXVI.)

The Castle area is roughly rectangular in plan, and measures within the walls some 500 feet from north to south by about 435 from east to west; it therefore covers almost five acres.

Before the construction of the public walks round the Castle in 1772 the north and west sides were protected by more or less precipitous cliffs, which had probably been largely scarped through the quarrying of the hill during the building of the Castle. On the east and south sides, where there is no natural defence,



PLAN OF
LUDLOW,
SHOWING POSITION OF CASTLE.
Based on the Ordnance Survey.

Scale 100 0 5 10
Feet 100 0 500

THE NATIONAL ARCHIVE

Published by the Society of Antiquaries of London, 1866

a deep ditch was cut towards the town, probably in the rock. But this is now almost completely filled up, especially on the south, where its site has been absorbed by the town, and mistakenly planted with trees. In continuation of the walk round the Castle two archways have been cut through the walls to enable a path to be carried through the south-west angle.

Within the Castle the north-west quarter is cut off, quadrantwise, from the rest of the area by another deep and wide ditch, excavated in the rock from cliff to cliff. It thus divides the area into an inner and an outer bailey.

The inner bailey seems to have formed the original Castle, and from the beginning to have been enclosed by a strong wall of masonry with external towers on the outer angles. The entrance into it was on the south, through a massive tower-gatehouse. This could be approached only by a wooden bridge across the ditch, which was from 70 to 80 feet wide, with vertical sides.

The outer bailey is clearly of later date than the inner, and was also enclosed by a wall, with external towers at intervals and a gatehouse towards the town.

The remains of this outer gatehouse belong to the end of the twelfth century, and consist externally of a projecting porch about $24\frac{1}{2}$ feet wide, of coursed rubble with sandstone quoins, in which is set the entrance. This has on either side, though not bonded, a buttress-like mass of wall. (Plate XL.)

The present aspect of the gatehouse is so far from formidable as to raise the question whether it was not covered by a strong barbican or other such defence, of which these buttress-like masses are all that is left. If, however, anything of the kind existed it must have gone before the close of the sixteenth century, since among the works in the Castle^a attributed to Sir Henry Sidney, who was Lord President of the Marches from 1559 to 1586, was the

making of a fayre lardge stone bridge into the said Castle, wthe one greate arche in the myddest and twoe at both endes conteyning in leinght aboute xxx^{tie} or xl^{tie} yardes and in height upon both sydes wth ffyne stone a yard and a half.

There are now no traces of this bridge, and the filling up of the ditch which it spanned has hidden any possible remains of its piers and arches.

The entrance into the Castle is a pointed archway about 9 feet wide with square edges, and over it a relieving arch. Above is a simple stringcourse on which stands a wide window or doorway with chamfered jambs. The head is segmental, and apparently a modern rebuilding. Within the archway is an entry,

^a Lansdowne MS. 111, No. 9, f. 20.

5½ feet deep, covered by a pointed rubble vault, with a broad inner arch, also pointed. The upper part of this has been reconstructed in the fourteenth century, and the earlier square-edged jambs partly cut down to correspond. How far the gatehouse extended westward is uncertain. On the north there is nothing, and on the south a length of much patched wall pierced with an Elizabethan doorway. As, however, this wall is of the same age and thickness as the porch wall it probably formed one side of a tower, the existence of which would materially strengthen the apparent weakness of the gate. There are some indications that the passage through the tower was covered by a barrel vault. Neither here nor elsewhere in the Castle is there any place for a portcullis.

The curtain wall north of the gatehouse remains more or less intact for



Fig. 1. Postern with stone-plated door in north wall of outer bailey.

300 feet, but is largely covered up by modern buildings within and ivy without. At 245 feet from the gate there projects a rectangular tower, still complete to its full height. Beyond the tower the original wall is missing where it rounded off the corner, and when it again appears after a break of 140 feet is considerably reduced in height. Its line is, however, continuous up to the Norman tower of the inner bailey. In this length is a postern doorway made up of odd moulded stones in which still hangs an old door, remarkable for being plated externally with slabs of sandstone, apparently as a protection against fire. (Fig. 1.)

The curtain wall south of the gatehouse is unusually perfect, not only as far as the rounded corner, but on to the south-west angle of the Castle, and retains the original parapet throughout with plain loops piercing the battlements. Its average height is 35 feet. Projecting from its south face close

to the rounded angle was formerly a square tower like that north of the gatehouse. It is shown in a plan made for the Earl of Powis as lately as 1811, but is now completely destroyed.

Just within the gatehouse and extending from it southwards along the outer wall is a long range of Elizabethan buildings. (Fig. 2, and plan on Plate XL.) It consists of three separate structures. The first was a two-storied house, of somewhat irregular plan, owing to the angle which the gatehouse makes with the castle wall, but it had a frontage to the bailey of nearly 40 feet. The main



Fig. 2. Porter's lodge and prison block in outer bailey.

entrance was probably that from the gatehouse, but there is another plain four-centred doorway at the opposite corner. The ground floor has two large windows looking west and another on the north. In the north wall is also a square blocked opening. The upper floor has two large west windows like those below, but furnished with high stone side-seats. The square hood-molds of these windows are continued between and beyond them as a stringcourse. Above was a cornice with gargoyles, and an embattled parapet, large part of which has lately fallen. The interior of the house is completely gutted, and the inner face of the castle wall has been so injured that nothing definite can be made out from it. There were no doubt fireplaces in it to both floors. From the upper floor there is a doorway into the destroyed chambers in the gatehouse. The south wall of the house was

common to the building beyond, but is all gone, and there is nothing to show where the staircase was.

The second building was also two-storied, and though intact as to its walls, has lost its floors and roof. It projects a few inches in front of the northern house and has a frontage to the bailey of 58 feet, 23 feet in advance of the castle wall. The front has in the middle a four-centred doorway, which was walled up half-way soon after its building and made into a window. It opened into a small lobby roofed over with stone slabs, with doorways from it right and left, and another in front which leads into a passage $3\frac{1}{2}$ feet wide, now used as an ammunition store for the local Volunteers; but originally, no doubt, this contained the stair to the upper floor. The room north of the lobby has two square-headed windows, rather high up, on the west, with steeply sloping sills. Over it was a room of the same size lighted by two windows like those below. All four windows are quite plain outside. The part south of the lobby has four square-headed loops, two below and two above, with hood-molds, and in its south end a small doorway from the bailey. The lower story was subdivided by a stout wall into two rooms, the northernmost of which had a fireplace on the east. The upper story was similarly treated. The south main wall has a corbel table at the top inside, and the front of the building was finished off with a cornice, gargoyles, and parapet like the contemporary house to the north.

There is little to suggest to what use these buildings were put, but that next the gatehouse was probably the porter's lodge, and the second block a prison. Some works upon the former are included in the enumeration of Sir Henry Sidney's works:

Item for making and reping of twoe Chambrs and divers other howses of offices as kitchin larder and buttry at the gate over the Porter's lodge at the Castle of Ludlowe and for Tyling and glasing therof.

The third of the buildings under notice is somewhat later than the others, and has much thinner walls. It has a frontage to the bailey of 66 feet and an internal depth of 21 feet, and apparently served as a stable, with loft over. The front has a large four-centred doorway in the middle with two windows on each side, square-headed and of two lights. The upper floor had three similar windows, one over the doorway, the others over the windows below, but owing to the ruined state of the building little else than the sills is left. There are not any openings in the south wall, which seems to have been largely rebuilt. The whole of the range just described is constructed throughout of ashlar.

Next to the item already quoted, the list of Sir Henry Sidney's works continues :

Item for making of Twoe walles of lyme and stone of ffortie yarges in leinght at the ntring into the said gate.

Item for making of a wall of lyme and stone at the Porter's lodge to inclose in the prisoners of aboute twoe hundreth yarges compasse wthin w^{ch} place the prisoners in the day tyme use to walk.

Item for making of a wall of lyme and stone three yarges in height, and aboute twoe hundred yarges compasse, for a woodyard wthin the same Castle.

There are no longer any remains of these enclosures, but the southern part of the bailey was used as a timber yard until comparatively recently.



Fig. 3. Remains of former chapel of St. Peter in outer bailey.

There do not seem to have been any buildings against the south wall of the bailey.

The length of wall which forms the western boundary of the outer bailey is interrupted midway by a tower to be described presently. South of the tower the wall, which is 6 feet 5 inches thick, is somewhat broken down. Attached to it and extending eastwards is a much ruined building, which included when perfect a wide western division, with an earlier long and narrow eastern portion.^a (Fig. 3.) Of the narrower portion only the north wall and part of the eastern are old, and the south wall is gone. The north wall contains a two-light window, one of two originally, with plain tracery and pointed head, with an inserted transom not far above the sills. West of this window is an inserted Elizabethan doorway, and east of it, in the place once occupied by the second window, is another Elizabethan doorway, but 6 feet above the ground, from which it was reached by a flight of

^a This is parallel with and distant about 43 feet from the south side of the castle wall.

stone steps, now gone. The wider western portion of the building is apparently Elizabethan, but beyond traces of a doorway and other openings in its north wall it is a hopeless ruin and devoid of all architectural features.

From the general proportions and orientation of the older portion of the building there can be little doubt that it is a remnant of the chapel of St. Peter. This is first mentioned in 1328, when Roger Mortimer, Earl of March, had a licence for alienation in mortmain of a rent of 10 marks to two chaplains to celebrate divine service daily in the chapel of St. Peter in Ludlow Castle, for the souls of the King, Queens Isabel and Philippa, Henry bishop of Lincoln, the said Roger and Joan his wife, etc.^a

So far as its architectural features go the chapel may well be of the date in question. It was $21\frac{1}{2}$ feet wide, and at least 52 feet long, but the west wall, which no doubt contained the entrance, was destroyed during the changes of the sixteenth century. These changes involved the division of the chapel into two stories, the insertion of the two doorways, and probably the addition of the block between the chapel and the castle wall westwards. The transom in the remaining window belongs to the same changes and marks the line of the inserted floor. The windows in the destroyed south wall were no doubt similarly treated.

The alterations just described are evidently those covered by another item in the list of Sir Henry Sidney's works :

Item for making of a Co^{rt} howse and twoe offices under the same for keping of the Recordes and for syling Tyling and glasing therof.

The upper half of the chapel became therefore the courthouse of the Court of the March, and the lower half the record rooms. The "twoe offices" forming these can only have been lighted by the small openings below the window transoms, and must have been somewhat gloomy.

The tower on the castle wall north of the courthouse was added to the defences in the thirteenth century, and has long been known as Mortimer's.^b It is oblong in plan, with a rounded face to the field, and projects into the bailey $2\frac{1}{2}$ feet from the curtain wall, with a frontage of about 18 feet with canted corners. (Plate XL.) This was originally pierced by a depressed arch of entry, but in the sixteenth century the arch was walled up and a window inserted in the blocking. In the north-east angle is a vice to the upper floors and roof entered by an inserted

^a Rot. Pat. 2 Edw. III. ii. m. 4.

^b In the legendary History of Fulk FitzWarin (see *post*) the keep or great tower is called Mortimer's, because one of that family was imprisoned in it.



Fig. 4. Exterior of tower on west side of outer bailey.

outer doorway, which also gives access to the ground floor. This is about 12 feet long by $9\frac{1}{2}$ feet wide, and has an inserted groined vault of the fifteenth century with plain chamfered longitudinal, diagonal, and wall ribs. At the point where the cross ribs should intersect is a small square hole, about which is a four-sided frame with ogeed sides of the same section as the ribs. The hole perhaps contained a carved boss which has long fallen out. The room has a modern two-light window towards the bailey,^a a fireplace, also modern, in the south wall, a deep pointed recess on the west, and another recess, now a coalhole, on the north. Externally this north recess shows a blocked square-headed opening, and facing westward is a modern two-light "Perpendicular" window, also blocked, which may replace an earlier opening. The first-floor room is quite plain, with a shouldered doorway from the vice. It has a flat ceiling and a modern fireplace, and was lighted by two windows, one to the bailey, the other to the field, of two pointed lights under a square head. The outer window is a modern restoration and carefully blocked. There is also a shouldered doorway from this floor to the rampart of the castle wall to the south. The second floor is a bare room with a blocked modern window on the west, flanked by two original square-headed openings. The third or topmost floor is also a bare room with modern roof over, and a blocked fireplace in its north wall. The chimney of this appears, externally, as a corbelled-out projection at the parapet level, but the rest of the wall is for the most part modern patching. The corbels which carry the chimney belong to a series originally set close together at the level of the uppermost floor round the outside of the tower, probably to carry a wooden boarding or gallery. (Fig. 4.)

The stretch of wall from Mortimer's tower northward is apparently of the same date, and has a doorway on to its rampart walk from the vice of the tower. There is no corresponding doorway at the further end, but in the Norman tower against which the wall abuts is a loop commanding the rampart walk. The old battlement remains, though somewhat ruined. Towards the southern end of the wall the parapet has been continued upwards for the width of the two cops and the intervening crenal of the battlement to a height of some feet, but for no apparent reason, as there is no turret in rear of it.

Before leaving the outer bailey it may be pointed out that another of Sir Henry Sidney's works was :

Item for making of a ffayre Tennys Corte wthin the same Castle paving therof wth free stone and making the howses rounde about the same wth Tymber.

There are now no indications of this, but in the 1811 plan a square enclosure

^a This is apparently a "restoration" of an Elizabethan window.

extending northwards from the courthouse to the ditch and from the castle wall eastwards is marked "Fives Court," and so may represent its position.

The inner bailey, as already noted, occupies the north-west quarter of the Castle. It is quadrant-shaped in plan, and still enclosed by the original wall, which varies in thickness from 5 to 6 feet. The broad ditch cut in the rock which cuts off the inner bailey from the rest of the Castle is spanned by a bridge of two plain round-headed arches, resting on a middle pier and at each end on the



Fig. 5. The great tower and entrance to inner bailey.

rock. At the north end is part of an older bridge, which retains on its west side part of an original ashlar parapet 1 foot thick and 3 feet high. On this rests the remains of a later and thicker wall of coursed rubble, rising to a height of $6\frac{1}{2}$ feet, and pierced with a loop. Outside the two walls are flush, but inside the old parapet has been thickened 6 inches to carry the addition.

The bridge leads to the present entrance into the inner bailey. This is a broad but depressed two-centred arch of the fourteenth century with square order,

set beneath a wider and more pointed arch, also square-edged, but of late twelfth-century date, which originally had an inner order. (Fig. 5.) Both are insertions in the curtain wall, which is of early Norman work throughout. Within the inner arch is a stout old oak double door with a wicket.

Above the entry is an inserted niche flanked by fluted pilasters on high pedestals, and containing in the lower part the arms of Sir Henry Sidney within the Garter, with his crest above, and in the upper part the royal arms of Queen Elizabeth, also within the Garter, with lion and dragon supporters and ensigned with the crown. Under the royal arms is a panel with the inscription :

ANNO DOMINI MILLESIMO QVINGE
NTESIMO OCTVAGESIMO CÔPLETO
ANNO REGNI ILLVSTRISSIMÆ AC
SERENISSIMÆ REGINÆ
ELIZABETHÆ . VICESIMO . TERTIO
CVRRENTE 1581

and under Sir Henry's arms on a panel flanked by a pheon and a ragged staff :

HOMINIBVS . INGRATIS . LOQVIMINI .
LAPIDES . AN^o . REGNI . REGINÆ .
ELYZABETE . 23 . THE . 22th . YEAR .
CÔMPLET . OF . THE . PRESIDENCY .
OF . SIR . HENRI . SIDNEY . KNIGHT . OF . TE .
MOST . NOBLE . ORDER . OF . THE . GARTER . ET . C . 1581.

To the left of the armorial niche is a two-light square-headed window, and over the entrance an Elizabethan gable with a transomed window of four lights. To the right are other windows and a second gable, all Elizabethan.

The entrance has a wide segmental reararch, and opened originally into what was perhaps a shallow gatehouse of 10 feet 6 inches projection, but of this only the porter's lodge remains on the west side against the great tower. It is entered by a shouldered doorway, and is a small chamber about 8½ feet square, with a pointed barrel vault, but there are no windows except a loop, now blocked, high up in the south-east corner. The porter's lodge is of the same date as the original bailey entrance. Beyond it northward is a short length of thirteenth-century wall, and then an inserted doorway of later date which now gives access to the tower.

The north jamb of the tower doorway is encroached upon by an Elizabethan wall, part of a block covering the gate, and extending eastwards along the curtain wall of the bailey.

This block is a three-storied structure of irregular plan, owing to its position against the curtain wall, which here makes a bend. It is now a roofless and floorless ruin,^a but in a set of drawings made for the Earl of Powis in 1765 it is shown with its floors and partitions, and the roof, though somewhat damaged.

The ground story has to the west a wide passage from the bailey entrance, with a four-centred archway of two chamfered orders at the opposite end toward the court. (Fig. 6.) The arch is rebated for but never had doors. The passage was ceiled, and not vaulted. Opening out of it on the right is a small four-centred doorway,



Fig. 6. View in inner bailey showing entrance and part of Judges' lodgings, the great tower, and remains of the great kitchen.

with a wide square-headed window beside it, which opened into a fair-sized room. This has towards the court a four-light transomed window with segmental rear-arch and opposite in the curtain a small fireplace, which may be medieval. Projecting into the room on the east of the window is a vice to the upper floors, from which a partition once extended to the curtain wall. The room beyond the partition had originally a four-light transomed window towards the outer bailey, now blocked within. On its north side was a doorway into it from the vice and another four-light window looking into the court. The east wall was originally

^a Part of the north front is shown in Fig. 6.

solid, but now shows a poor little fireplace and a doorway, both of much later date.

The vice has lost all its steps and has also a doorway from the court on the ground level. From the stair two other doorways opened on to the first floor into a western and an eastern chamber, the division being a partition running from between the entrance doorways to the curtain wall opposite.

The westernmost room had two four-light transomed windows towards the court, and in its north-west angle a skew passage through the wall on to (apparently) a wooden gallery or balcony. On the tower side was an opening on to an ascending flight of steps which turned at a right angle and led to a room over the porter's lodge. On the south is a deep recess, once closed by a partition and lighted by a two-light window, blocked within, but visible outside. It contained an ascending staircase into the great tower. East of this recess is a good Elizabethan fireplace with stone mantel, and beyond it another two-light window, now blocked and only visible outside. Lord Powis's 1765 plan shows the room as divided by a partition running from between the two north windows to between the fireplace and window opposite. The eastern of the divisions was also subdivided by a partition extending from the middle of the window next the vice to just east of the window opposite. The narrow space thus formed had its south end cut off to form a little room accessible from that east of it, while its northern part had a single doorway from the room to the west. The latter would have been entered therefore only from the great tower.

The easternmost room of the first floor has a four-light window with wooden lintel towards the court, and another opposite, looking into the outer bailey, set in a deep recess. East of the recess is a blocked doorway into a closet or garderobe. The east wall has a broad square opening, once a window, and a good fireplace with corbelled-out head and stone mantel. In the left spandrel of the fireplace is a rose; the corresponding device on the right has mouldered away.

The third story also consisted of two large rooms. That to the west had a transverse roof with lofty gables over the line of the passage in the ground story, with a four-light transomed window in each gable. The main roof ran through up to the great tower, where the mark of it is plainly visible, with the wall plaster below. The room had a small fireplace in the south wall, and in the north-west corner a window towards the inner court. The eastern room had also a transverse gabled roof with a four-light transomed window in each gable. That to the south is set in a deep recess with a blocked door on the left into a garderobe. In the east wall is a broad square-headed light and a small fireplace. The vice originally continued upwards to give access to the roofs, and was capped by a conical roof.

It is lighted throughout its height by a series of wide square-headed loops, which were glazed. All the other windows of the block were of course glazed, and the principal ones were also shuttered inside. Externally the block has to the court a moulded plinth and labels to the windows. The parapet has also a moulded cornice which is returned over the gables of the roofs.

The inserted doorway in the east wall of the ground story opens into a small and much ruined building of the same date, built against the curtain and measuring about 19 feet in length by $13\frac{1}{2}$ feet in width. In the west end is a small fireplace, and in each of the two free walls was a wide four-light window with brick jambs and hood-molds, but the mullions, which were probably of wood, have disappeared. There was an upper story, which must have been reached by a wooden stair. It also had a fireplace in the west wall, but its north and east sides are much broken down. The building is apparently of early seventeenth-century date.

In Lord Powis's drawings the whole of the block just described is called "The Judges' Apartments." This was probably its use from the first, since an inventory of 1650 gives the contents of "the Governour's Quarters, formerly the Justices' Lodgings," which a process of elimination shows to have been the block in question.

Extending along the curtain wall northwards, beginning at a distance of some 10 or 12 feet from the buildings just described, was a long and apparently half-timbered structure, of which nothing remains above ground. Its plan was recovered during our excavations, and showed it to have had a frontage to the court of about 48 feet, with a mean width of some $15\frac{1}{2}$ feet. Its outside limits were marked by narrow foundations of rough masonry, which enclosed an area paved with common 9-inch tiles. In the middle of the building was the base of a block of brickwork about 7 feet 8 inches square, with the hearths of two fireplaces set back to back. The one faced north, and was much the larger and deeper, and paved with bricks set on edge. The other faced south, and was of no great depth, but had an ample hearthstone in front. The doorway into the building seems to have been over against the chimney block; its site is indicated by a broad patch of pitching.

The building just described seems to have been the laundry.

In the eastern part of the bailey, at a short distance from the curtain wall, stands the well-known round nave of the Norman chapel of St. Mary Magdalene.*

It is about 28 feet in internal diameter, and built throughout of thin courses of well-laid rubble. Externally the building is divided into two stories by a

* It is so called in the legendary History of Fulk FitzWarin.

stringcourse worked with a double row of large billets. Below this the wall is plastered for part of the way round.^a (Fig. 7.)

On the west side is a round-headed doorway of three orders. This was at first quite plain, but the upper half of the jambs and the arch have been reconstructed^b and the two outer orders are now carried by inserted jamb shafts with



Fig. 7. Exterior of round nave of chapel of St. Mary Magdalene in inner bailey.

ornamental cushion capitals, and imposts carved with a star pattern. The outermost order has rich chevron mouldings with a star pattern round the edge of the soffit, and a label with a double row of billets. The second order

^a The plaster ends abruptly on the north with a vertical line just beyond the entrance, but for what reason it is difficult to say.

^b It is possible that there was a pause in the building of the chapel after it had been carried up a certain height, and that the enriched part of the doorway belongs to the later work.



Fig. 8. Interior of part of the north side of the chapel of St. Mary Magdalene.

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is simply moulded. The innermost is carried by plain square-edged jambs, and decorated with a chevron moulding and a stellar diaper round the soffit. The rear arch of the doorway is simply moulded, and seems to be formed of a number of stones that have been re-used.

Right and left of the doorway within is a wall arcade of seven arches on each side. (Fig. 8.) The arches are round-headed, and alternately moulded and worked with chevrons. The end arches start from square-edged jambs, without imposts or capitals, but the rest are carried by detached circular shafts with carved cushion capitals of different patterns, but without imposts or upper members. The arcades stand on a bench table 12 inches wide, with moulded edge, and $12\frac{1}{2}$ inches above the floor, which was of stone flags.

In the upper part of the building are three round-headed windows facing south, west, and north. They are widely splayed within and have a roll moulding all round, starting on each side from a moulded base. (Fig. 8.) They were originally apparently open and not glazed, the place of the usual rebate being taken by a roll moulding about halfway through the thickness of the wall. From this the opening splays widely outwards. In the north and south windows this splay is quite plain, but the west window has the outer edge worked into jamb shafts carrying the head, which is chevronny, with a label of billets over. Externally the windows rest on the dividing stringcourse.

Opposite the entrance is the chancel arch. This is undoubtedly of later date than the wall arcade, and of three orders, carried by jamb shafts, which are doubled to the innermost order. (Fig. 8.) The shafts have cabled astragals and cushion capitals, carved on the south side with star-like flowers, and on the north with a series of waves. The imposts are also carved with four-rayed stars. The outermost order is chevronny, with a label worked with two rows of billets, and the soffit is worked with four-rayed stars in lozenges.

The second order is moulded only, but has the soffit edged with four-rayed stars in squares. The innermost order has both the front and the soffit diapered with like stars.

The chancel has been destroyed, but our excavations brought to light its foundations, which show that it was 12 feet square, with a semi-octagonal apse beyond, 11 feet wide.* (Fig. 9.) These no doubt had the walls arcaded, and were

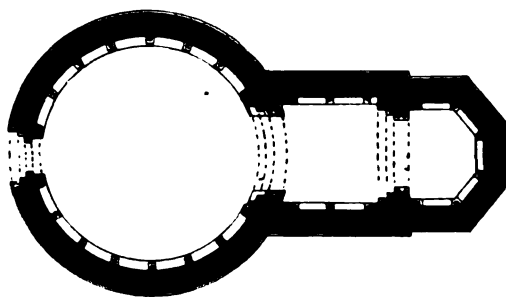


Fig. 9. Original ground plan of the chapel of St. Mary Magdalene. (Scale = 24 feet to an inch.)

* The apse did not extend as far as the curtain wall, but stopped $5\frac{1}{2}$ feet short of it.

divided by an arch like that from the nave. Both also were vaulted. The outer roof, as shown by its line on the nave wall (which also shows traces of the chancel vault), was of lofty pitch, with projecting eaves. The nave probably had also originally a conical roof with eaves, but this was afterwards taken off, the walls raised and encircled by an embattled parapet, and a new roof of lower pitch substituted.

The total internal length of the chapel was $54\frac{1}{2}$ feet.

The date of this remarkable structure is somewhat uncertain. The rudeness of the wall arcades is suggestive of a date not much after about 1080-90, but the enrichments of the doorway and chancel arch are certainly later, and point on the whole to a period about 1120 for the completion of the chapel.

As regards plan, this chapel is not only absolutely unique in this country, so far as is known, but I have not been able to hear of any exact parallel to it elsewhere.

During the Presidency of Sir Henry Sidney the chapel underwent considerable alterations, which are thus described :

Item for for [*sic*] making reping, and amending of the Chappell wthin the said Castle; syling, glasing, and Tyling of the same with ffayre and lardg windowes: waynescotting, benching, and making of seates and kneling places and putting upp of her Maties Armes wth divers noble mens Armes together wth all the L. Presidentes and Counsaillies rounde aboute the same.

The chapel has been so completely gutted, and all remains of the chancel destroyed, that it is at first difficult to follow Sir Henry Sidney's changes, but our excavations have helped to make all clear. The Norman chancel was taken down to its plinths and replaced by a new one of half-timbered construction extending from the round nave right up to the curtain wall, against which its abuttal is traceable. The sides were much higher than the old building, no doubt by reason of the "ffayre and lardg windowes," and the roof was a nearly flat one covered with lead. The floor was of tiles, and some traces remained of the fittings, which took up a space about $3\frac{1}{2}$ feet wide along each side. The altar seems to have stood detached from the east wall, and was probably surrounded, puritan fashion, by a railing with kneeling places.

In the case of the nave, a floor, carried by old carved corbels of various dates, was inserted at the window level, $10\frac{1}{2}$ feet from the pavement, to form an upper chapel for the quality while the ground story continued to serve for the household. Access to this upper chapel was by a wooden gallery from the buildings on the north to the north window of the chapel, into which a door-

way was intruded. (Fig. 8.) A doorway was also made from the lower gallery by cutting out the back of one of the wall arches. The upper chapel continued to be lighted by the original south and west windows, but the putting in of the new floor necessitated the lighting of the lower chapel by two large square-headed two-light windows inserted on each side in the back of the second arch from the door. The raising of the nave walls and flattening of the roof may have taken place at the same time.

The section of the curtain wall behind the chapel retains part of its original outer parapet, and here and there, especially at the ends, some of the inner protective parapet is left also.

To understand the story and arrangement of the range of buildings along the north side of the inner bailey, which are built against the original Norman curtain wall, it will be best to begin with the oldest portions, namely, the great hall and the block west of it.

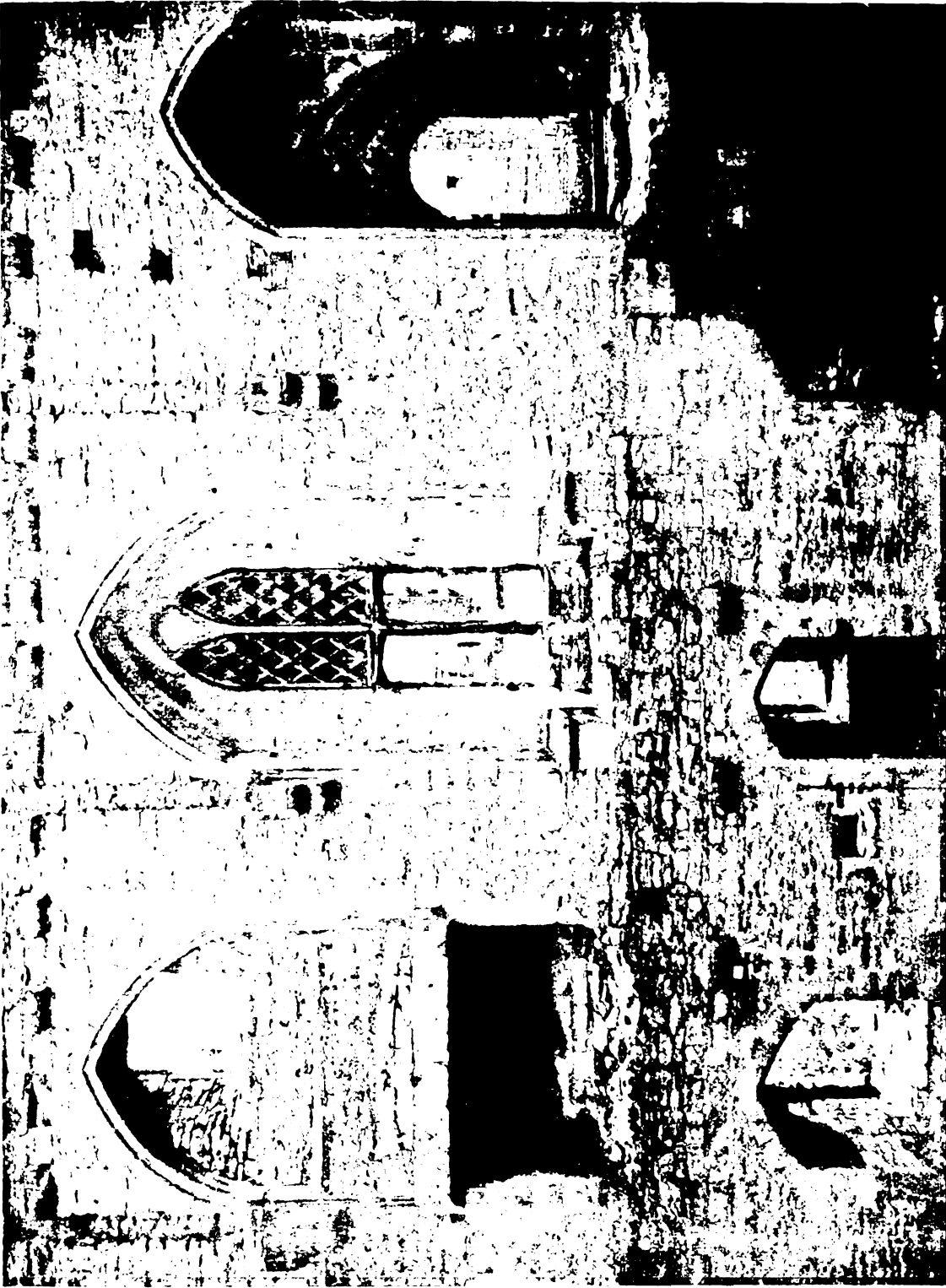
The great hall is of late thirteenth-century work, and stands east and west upon a basement of the same size, which served as a cellar.

This basement is 60 feet long and $30\frac{1}{2}$ feet wide; it was originally entered by a two-centred doorway in the east end of the south wall, and was lighted by four square-headed windows, also in the south wall, set in the ends of deep semi-octagonal recesses with depressed heads. The recess of the third window is narrower and shorter than the others, and square in plan. The second window was taken out in late Tudor times and replaced by a wide four-centred doorway. (Fig. 10.)

The west wall, and a casing of the Norman wall on the north to get rid of its curvature, are of the same date as the south, but do not contain any openings. The east wall abuts against the curtain with a straight joint, and is both older than the hall and more rudely built. It extends in height halfway up the hall itself, and may belong to the twelfth century. In its north end is a roughly-made opening of late date, now blocked.

The cellar was not vaulted, but covered by a wooden roof, which served also as the floor of the hall. The wall plates were carried by corbels in the side walls, and there was a longitudinal beam down the middle, supported by two intermediate pillars. The foundations of these were found to vary considerably in size, that to the west being 2 feet and that to the east 6 feet square. The latter was no doubt made larger to carry the hearth of the hall fire above.

The hall was entered by a wide doorway in the west end of its south wall, reached by an ascending flight of stone steps, $9\frac{1}{2}$ feet wide, now much broken down. (Fig. 10.) The doorway is a tall pointed one, of simple design, with



LUDLOW CASTLE. PART OF SOUTH SIDE AND BASEMENT OF GREAT HALL.

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continuous mouldings; the reararch is also moulded. The door was a single one, guarded on the inner side by a drawbar 7 inches square, and the stump of an iron hook for holding it open remains in the left jamb.^a Just to the east of the doorway may be traced the line of the screen, which was carried right up to the roof.^b



Fig. 10. The great hall from the south.

In the rest of the south wall were three windows, each of two tall trefoiled lights with a transom, with simple arch mouldings and hood-mold. (Fig. 10 and Plate XXXVII.) Internally the windows are set at the back of shallow square recesses with two-centred moulded reararches, and were furnished with

^a The doorway still contains an old oak door with fretted braces behind, and pierced for a wicket, but its date is uncertain.

^b See Plate XXXVII.

stone side seats, but these remain only in the westernmost window. The openings are rebated for the usual shutters, but those now existing in several of the openings can hardly be medieval. The middle window has been altered in late Tudor times,



Fig. 11. Window recesses, etc. in north and east walls of great hall.

by inserting in its lower half a large fireplace and over it a two-light square-headed window. (Plate XXXVII.) The flue of the fireplace is doubled, and passes up on either side of this window, but the chimneys have disappeared.

On the north side, which is of the same date as the hall, are also three windows, but of one light only, and of plainer character. Owing to the greater thickness, 7 feet instead of 6 feet, of the wall, the side seats are continued across the backs of the window recesses. The easternmost window has been altered, the west jamb having been cut away quadrantwise for halfway up and the east jamb mutilated. (Fig. 11.) The reason for the alteration is somewhat obscure, unless it was for the insertion of a wooden staircase to a gallery or loft over the dais, which was at this end. To the east of the window is a small pointed doorway which opened on to an external stair, of the same date as the hall, to the upper chambers beyond.

The east wall has in its north end an Elizabethan doorway into the next room, and over it, on the level of the upper floor, an important doorway of late fifteenth-century work. (Figs. 11 and 18.) This doorway opens towards the hall, but unless there was a gallery over the dais, of which there are no definite traces, it is difficult to see its purpose. Subsequently the lower half of the doorway on the hall side has been taken out and filled up with rubble work.

There are no traces of the dais, but the side seats of the window south of it have been cut away apparently for a sideboard to it.

In the west wall of the hall are several openings. (Fig. 12.) On the extreme north is a pointed doorway into a stair turret to the roofs and upper chambers beyond. Then comes a similar doorway into a passage through the wall. This had originally by its side a like doorway into a deep recess, opening also out of the passage, but the doorway has been clumsily widened and raised, using up the old arch stones, the opening into the passage walled up, and the back of the recess cut through to form a second passage. At the south end of the wall a third passage has been also roughly made through it.

The hall roof was a massive wooden one, apparently of low pitch, and of five bays. The second bay is narrower than the rest to sustain the lantern^a over the fire, which originally burned upon a stone hearth carried by the large pillar in the basement. The principal beams were supported by braces springing from bold corbels between the windows and in the middle of each end. These corbels differ in section along the two sides of the hall, and those on the south side have deep chases above them for the wall pieces. (Plate XXXVII.) About 6 feet

^a The corbels that carried the narrow bay are shown in Fig. 11.

above the corbels an almost continuous row of a smaller series extends along each side to carry the wall plates. The walls of the hall seem from existing patches to have been plastered and not wainscoted.



Fig. 12. Doorways in west end of great hall.

Externally the hall is completed by a moulded cornice and embattled parapet. (Fig. 10.)

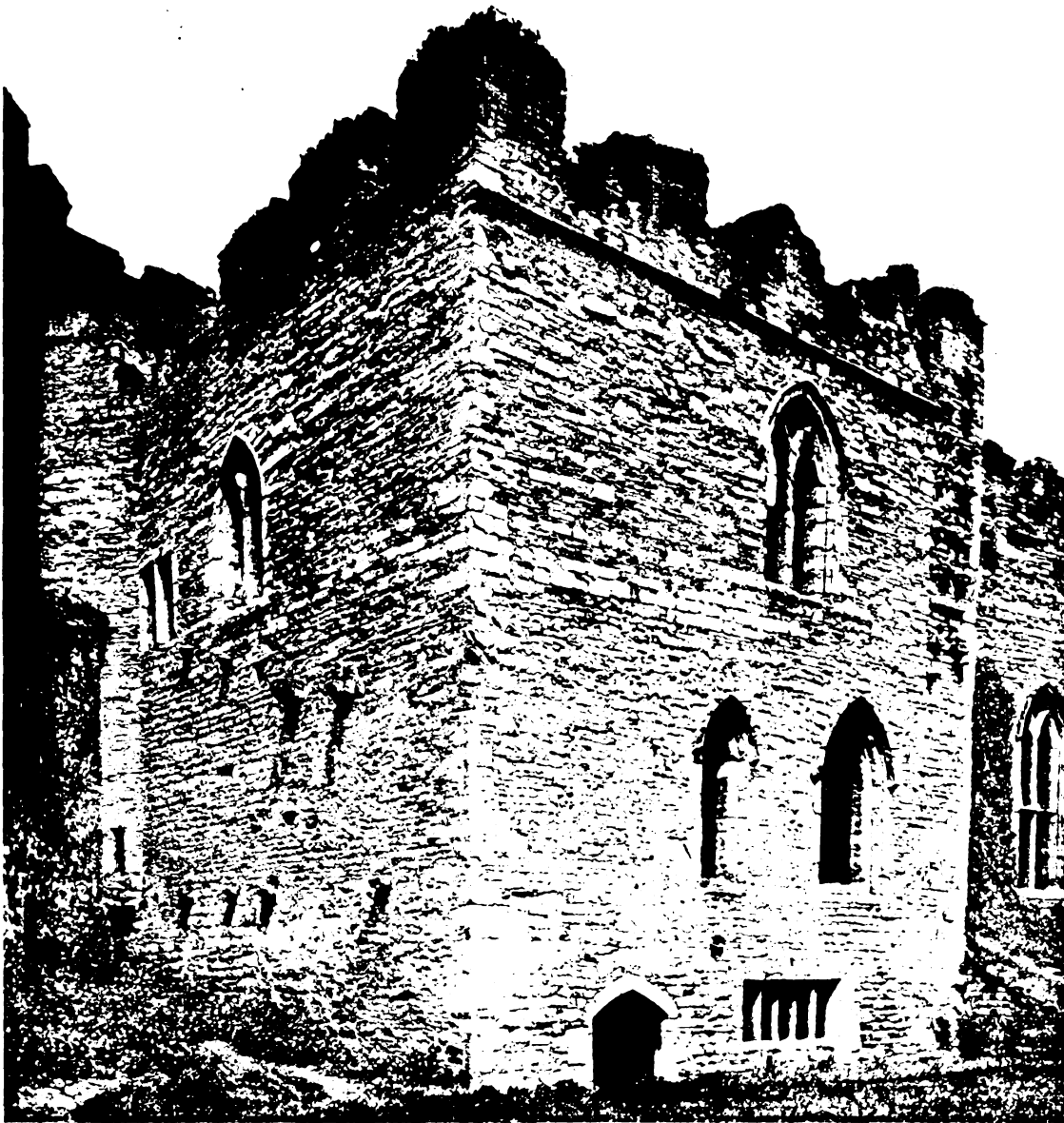


Fig. 13. Exterior of solar block west of great hall.

Joining on to the hall on the west is a block of the same date and of three stories. (Fig. 13.)

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The ground story is irregular in plan, owing to its north end being formed by



Fig. 14. Interior, looking south, of solar block west of great hall.

a section of the Norman curtain wall. It has a uniform width of 26 feet, but the

east and west walls measure respectively 39 and $31\frac{1}{2}$ feet. The entrance is from the court by a wide two-centred doorway in the south-west corner, next to which was a window under a two-centred reararch in the south wall. This window was



Fig. 15. Interior of tower, etc. on north side of solar block west of great hall.

subsequently broken out and replaced by a wide square-headed one of five plain lights. Owing to the increased width of this a skewed opening has been made

between the old window recess and the doorway to let in as much light as possible. On the soffit of the old window head there is painted on the plaster a flaming beacon resting on a torse between the letters **W N** and with a five-balled coronet above. This is the device of William Compton, Earl of Northampton, who was Lord President of the Council of Wales from 1617 to 1630, within which dates the later window must have been inserted. The east wall of the room has no openings, but the west contained a fireplace, most of the stonework of which has been torn out.^a The north end of the room is formed partly by the Norman curtain wall and partly by an extension into the basement of one of the Norman towers. (Fig. 15.) The latter is about 12 feet wide and 18 feet deep, but is not quite rectangular in plan. Just within it on either side is a round-headed doorway that opened on to a flight of steps leading upwards in the thickness of the wall. That to the east is blocked a little way up by later alterations; but the other can be followed to a small vice that once led upwards to the parapet.

The basement of the tower, as well as the ground story out of which it opened, was covered by a wooden ceiling that served as the floor of the story above.

This was an important chamber of the same plan as the basement, but slightly larger owing to sets-off along the walls. It had originally two entrances: one from the hall; the other from the landing of the big flight of steps up to the hall door. Both doorways are plain pointed openings with chamfered jambs, and the outer was protected by a stout draw-bar.

In the south wall of the room are two windows. (Figs. 13 and 14.) The larger one to the east has a pointed opening with sunk chamfers and a hood-mold, and although nearly 4 feet wide was not subdivided. The opening was protected by iron bars and closed by a double shutter, the hooks for which remain on each side. The window is set in a deep square recess with stone side seats and has a two-centred reararch with the sunk chamfer. On the inside the window jambs were originally carried down to the floor, but have subsequently been filled with brickwork up to the sill, and the stone seats boarded for warmth. The lesser window is set in a recess of the same size as the other, but its opening is only $21\frac{1}{2}$ inches wide. It was barred and shuttered, but has no glass grooves. The lower part of the window internally has been treated like the other, and has in it a drain fitted with an external spout. The window recess retains much of its old plastering.^b

^a It remains at the base, but, owing to the deep accumulation of earth and rubbish upon the floor, is not now visible.

^b Between this window and the west wall there has been a square-headed opening to the outside, but this has been carefully walled up.

The east wall has at the south end the shouldered reararch of the outer entrance, and a little to the north of it the segmental beaded archway of the later passage from the hall. (See fig. 14.) The middle part of the wall is occupied by a fine and ample fireplace with flat chamfered jambs corbelled out to carry the projecting hood, but the original lintel below this has been cut away and replaced by a segmental arch of brick. To the north of the fireplace is the forced opening from the hall, with a segmental head. Beyond this is the simple pointed archway of the original passage from the hall. All these features are well shown in Plate XXXVIII.

The north end of the room, like that below, is partly formed of a short section of the Norman curtain wall; but in this has been inserted a square-headed window of the same date as the room. To let in as much light as possible the left jamb has been cut back and the head corbelled out in a curiously ugly fashion. (Plate XXXVIII.) In the floor of the window recess may be seen the head of a Norman arch of the wall passage already described, and the wall below the window has been built up from the level of the basement as if there was once an opening into the wall passage, but it is impossible now to see how things were managed originally. The Norman walling in which the window is set was once continued to the west across the tower upon an arch, but this has been taken down and reset in a different form much higher up. (Fig. 15.) The space formerly within the tower has thus been thrown into the room. In the north end a plain two-centred archway has been made, opening into a Norman passage in the thickness of the tower wall, and opposite the archway a small trefoiled light of the same date. As the floor of the passage is 4 feet above the level of the room, the archway into it merely served as a reararch to the light opposite, and on the passage side it is seen to take the place of a former Norman loop. The passage, which is 3 feet wide, extends round the three sides of the tower, and was lighted by two loops on the west (now blocked), two more on the north (superseded by the later light), and by another on the east. Beyond this eastern loop the passage widens out and has in its outer side a round-headed garderobe recess with a loop at the back and raised a step above the passage. The garderobe is built out squinchwise over an external angle and only lacks its seat. The passage is covered throughout by a rubble barrel vault, and was entered from the west by a doorway now blocked; it probably also continued eastwards.

Returning into the large room it will be seen that the west wall is plain, with only a pointed doorway in it close to the junction with the tower. This opens into a skewed passage leading into a garderobe tower, which has been added out-

side in the angle of the Norman tower and the curtain wall. The building of this was the cause of the blocking of the western loops of the wall passage described above.

The large room and the annexe to it in the tower had a wooden ceiling which served as the floor of the rooms above. The deep chases for the main cross timber may be seen south of the fireplace (Plate XXXVIII.) and in the opposite wall, and all along the walls are the corbels that carried the wall plates.

There is some little difficulty in deciding what may have been the original use of the room just described. It occupies the position normally occupied by the buttery and pantry and the way to the kitchen, but there is no evidence of such subdivision, and the kitchen was a detached building to the south. Such, nevertheless, may have been the original purpose of the room, and the idea is borne out by the wide passage of communication with the hall, and what seems to have been a serving hatch beside and opening out of it. On the other hand, the window seats, the fireplace, and the special garderobe accommodation, are as strongly suggestive of a living room.

The difficulty is not lessened by an examination of the basement. This has, it is true, a doorway wide enough to roll barrels through (fig. 14), but if the place were a cellar why has it a fireplace, and how were things taken up to the floor above?

This latter question can be answered as regards later days by the evidence of Lord Powis's plans. These show that the middle passage from the hall did not open directly into the room, but on to a circular staircase down to the basement. In the basement plan this is drawn as if of stone, and there is next it against the east wall a solid block as if to carry the hearth of the fire above. But no traces of these could be found by excavation, and they can hardly have been medieval.

On the whole it seems most probable that the first-floor room was the solar, and the basement a servants' department. The stair referred to, like certain partitions shown on Lord Powis's plan, was probably an Elizabethan or later addition.

The third story of the block under notice was occupied by a room of the same size as that below. It was reached from the hall by the vice at the north end of the screens, and was entered from it by a pointed doorway set on one side of a three-sided segmental-headed recess for the door to fold back into. (Plate XXXVIII.) In the same east wall as the entrance is a small square-headed fireplace, and above it are the stumps of two octagonal chimney-shafts. At the south end of the wall is a small pointed window with two-centred reararch, but

built inside out as if meant to serve as a doorway into the upper story of a porch covering the entrance to the hall. (See fig. 14.) But there is no evidence that the porch was ever built, and the sill of the window is about 2 feet above the floor level, and has further been partly walled up. The south wall has within a segmental-headed recess a nice traceried window of two trefoiled lights. (Figs. 13 and 14) These have saddle bars and shutter hooks, but no glass grooves. The bottom of the recess has been cut down to the floor level, but there are no side seats. In the west wall is a precisely similar window, and north of it a blocking which shows outside to be that of a square-headed window of two lights. (Fig. 13.) Both the original windows have sunk chamfers round the outer order, and the southern has also a label. North of the blocked window is a shouldered doorway into the garderobe tower. The north end is of the same date as the rest of the room, carried up from the Norman work below, but on a straight instead of a curved line. It has next to the entrance a deep window recess, the bottom of which has been cut down to the floor, and in the back a pointed light. An added story to the Norman tower forms part of the room and opens out of it under a plain square-edged two-centred arch. (Fig. 15.) It has in the east side within a segmental-headed recess a trefoiled light, with stone side seats. The roof of the main building was almost flat, as may be seen by its ridge against the tower.

The vice that gives access to the uppermost story is continued up as an octagonal turret, from which there opens a shouldered doorway on to the main leads, and another doorway into a room in the top of the Norman tower. This room has thinner east and west walls than the annexe below, and so is of larger size. It has single light windows on the north and east, and on the south a fireplace with projecting head. The wooden roof was carried on corbels, and the tower finished off with an embattled parapet.

It is clear from an examination of the exterior of the block just described, which also has an embattled parapet, that the uppermost story is an afterthought, and it has at the south-east corner tushes for some projected attachment, which was not provided for in the original scheme. (Fig. 13.) This attachment was probably the hall porch already mentioned, and on the hall wall, between the doorway and the first window, a scar is traceable down the upper part where a series of corresponding tushes has been cut away. (See Fig. 10.)

To the east of the hall, and extending from it along the curtain wall up to the return of the latter southwards, is a somewhat complicated range of buildings of several dates. It consists practically of two blocks, the one Edwardian, the other Tudor, the latter occupying in part the site of something earlier.

The Edwardian block (Fig. 16) is of a date *circa* 1320, and slightly later than, though in continuation of, the work of the hall. It is three stories high, and in plan a rhomboid, 46 feet by $25\frac{1}{2}$ feet internally, with its south and east

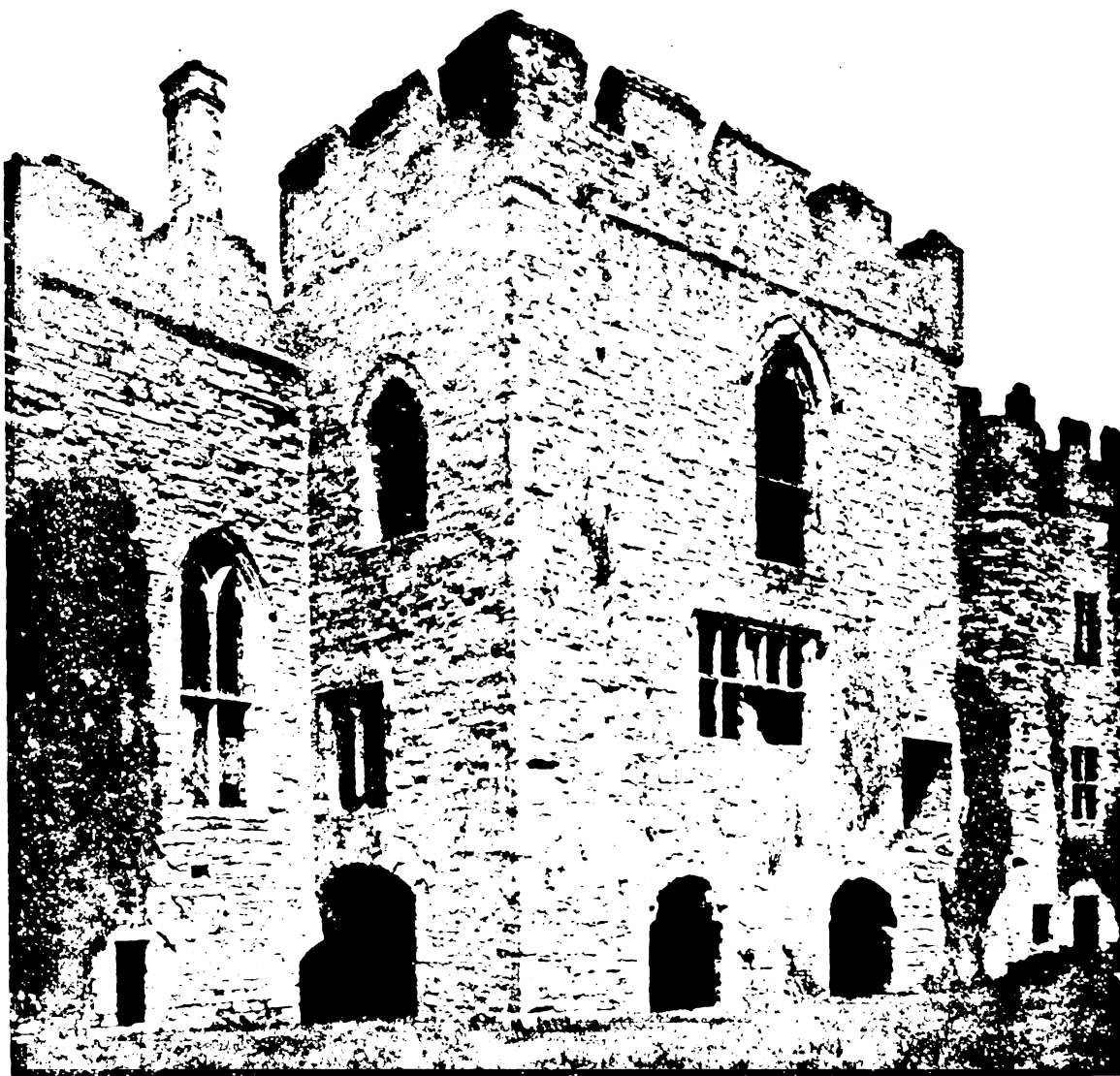


Fig. 16. Exterior of great chamber block east of great hall.

walls 7 feet and $8\frac{1}{2}$ feet thick respectively. The ground story is entered by a small two-centred doorway on the south-west, recessed beneath a broad segmental arch which also nearly covers the somewhat earlier doorway into the hall cellar. The



LUDLOW CASTLE. INTERIOR OF SOLAR BLOCK WEST OF GREAT HALL.

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rest of the west wall is devoid of openings, but at the extreme north end are traces of a roughly made opening, now blocked, into the hall cellar. The north end is formed by the Norman curtain wall, and has no openings in it. The east side has a small pointed doorway at its north end into the great garderobe tower without, and in the middle of its length a gap for a contemporary fireplace, now torn away. In the south end, at the back of two deep square recesses with stone side seats, are as many windows. Each was of two trefoiled lights and square-headed, with a relieving arch over, corresponding to the pointed head of the recess within. The lights were rebated for shutters, and the subdividing mullions had a projection for a bolt hole inside. Both windows have now lost their tracery, but the pieces are lying about and could easily be replaced.^a The room perhaps served as a guard-chamber. Round it are the large corbels that carried the wall-plates of its ceiling, which of course served also as the floor of the chamber above. Owing to the wide span there may also have been two or more supporting posts down the middle of the room.

The first floor room, from its size, position, and architectural importance, must have been the great chamber, but the difficulty is to see how it was entered.^b The west wall has over the doorway below a deeply recessed square-headed window of two trefoiled lights, like those originally in the south wall of the ground story, but more elaborately moulded. It is fortunately perfect, and has a bolt hole for the shutters in the back of the mullion, and externally a label ending in carved busts. The recess has a segmental head and is square in plan, with stone side seats. At the north end of the west wall is a much botched opening, now partly filled by an Elizabethan doorway from the hall dais, which may mark the place of an original entrance.

The north end has seen many changes. In the middle was once an Edwardian window (perhaps similar to that over it in the floor above), but it was replaced in late Tudor or early Stewart times by a wider square-headed and transomed one of two broad lights. The head of this still retains its plaster ceiling and moulded wooden cornice. In more recent times the widely splayed opening has been reduced to a square form by masses of masonry to support the wall above, which was carried, in the most reckless way, by thin boarding only. (See Fig. 18.) To the left of the window is some older work with the vertical jamb of a blocked opening, and

^a Since this Paper was written the remains of the tracery have been replaced.

^b In Lord Powis's set of drawings a straight stair up to it from the room below is shown against the east wall, just to the north of the fireplace.

to the right of it a small doorway into the garderobe tower. The east wall has a passage nearly 5 feet wide through its north end into the next room, entered by a two-centred doorway with a drawbar on the passage side. In the middle of the east wall is also a large fireplace standing out upon a fourfold series of corbels. It has side jambs with double ressants on the chamfers, curving out at the top to carry the stone hood, which has suffered much injury. (Fig. 17.) The lower



Fig. 17. Remains of fireplace, etc. in great chamber.

part of it is vertical, and the corbels that carry it are carved with bunches of oak leaves. On each side of the vertical part of the hood are two large quadrant-shaped brackets finely carved with leafwork and faces peeping through. The only other feature on this east side is an inserted square-headed fifteenth-century window of two lights with trefoiled cusping.

The south end originally contained a square-headed window of similar

character to that in the west wall, but of this there is left only the east jamb of its recess, with a shouldered doorway to a passage that led eastwards to a destroyed turret beyond. The rest of the window has been cut out to make way for a broad square-headed and transomed Elizabethan window of five lights, over which the label of the original window has been re-used.^a (Fig. 16.) The wall passage to the east has been roughly cut through at the same time as the new window for the Elizabethan gallery to the upper story of the chapel, but of the gallery itself, which was a two-storied wooden structure, there are no remains.

The roof of the great chamber was carried by corbels with carved heads, and divided into four bays. There may also be seen in both the east and west walls a series of long chases now neatly filled up with masonry.^b These were evidently for the wall pieces of a wooden roof with large moulded principals, and there can be no doubt that as originally planned the block under notice, like that west of the hall, was to have been of two stories only.

Inasmuch as there are no apparent means of communication between it and the room below, and the only important doorway opens from and not into it, the question how the great chamber was reached is a somewhat difficult one, but by a process of elimination a probable answer can be given.

It has been pointed out that from the recess of the original south window a passage led eastwards. This can only have communicated with an original turret attached to the south-east corner of the block under notice. This turret was destroyed when the fifteenth-century changes were made, but the traces of it are not altogether obliterated. It led up, probably from a doorway in its eastern face, to the great chamber and the room beyond on the same level, and to the room above the latter, but did not open into the room over the great chamber. It may be objected that the passages from the turret, with doorways only 2 feet wide, are too narrow for approaches to such important rooms, but at the time of the building of the hall and its adjuncts castles were still fortresses, and in one so near as Ludlow to the hostile Welsh border every precaution would of necessity be taken against attack, especially in connexion with the lodging of the lord and his family.

There seems also to have been another way into the great chamber at the opposite corner. Outside this is a contemporary staircase entered by a doorway

^a The lintel of the inserted window is formed of wooden planks, which are dangerously insufficient to sustain the walling above, and it has been found advisable to insert a pillar of masonry to help carry the weight.

^b One is visible to the left of the fireplace in fig. 17. The open chase of another, but shorter one, which has lost the filling, remains over the doorway to the north. The other hole nearer the fireplace represents the place of a lost corbel like that to the south.

off the north end of the hall dais. This opened into a lobby or halpace at the stair foot, whence a skewed doorway led into the great chamber. This was, however, built up in Tudor times and a small square window inserted in the blocking, and a new doorway made beside it opening directly from the hall. A two-light Elizabethan window was subsequently inserted in the outer wall of the stair halpace, and the stairs covered with woodwork.

The staircase just described led up to the room over the great chamber, into which it opened by a shouldered doorway set within a square-headed recess with a label over. (Fig. 18.) This room was of the same size as that below. In the north end, next to the entrance, is a tall and deep recess with depressed reararch with a label over ending in heads. (Fig. 18.) A stone seat runs round the recess and at the back is a tall trefoiled light with a transom, and rebates for shutters. Further east is a narrow pointed doorway^a into the garderobe tower. The east wall of the room has at the north end a doorway with moulded arch of two orders into the chamber beyond (see Fig. 17), and at the south end an inserted square-headed fifteenth-century window^b of three cinquefoiled lights with a plain transom. The south end has a deep square window recess with seats like that opposite, but the window was of two trefoiled cusped lights with a quatrefoil over. Unhappily the tracery has all fallen out except the transom. (Fig. 16.) The west wall has at the south end a window over that below, set in a deep square recess with segmental head, with moulded edges and a label over ending in carved heads. The recess retains its stone side seats, but the tracery of the window has gone. In the middle of the same wall is a fine contemporary fireplace with projecting hood. (Fig. 18.) The chimney of this is an elongated oblong on plan and remains to its full height, but the upper part has recently been rebuilt for safety. At the north end is a wide doorway inserted *temp.* Edward IV. looking into the hall. It is four-centred with continuous mouldings, but those of the head are curiously corbelled out from the hollow of the jambs. The doorway is set within a pointed arch, with panelled tracery in the head.^c (Fig. 18.) The possible object of this doorway has been already discussed in connexion with the hall.

The wooden roof of the room just described was a nearly flat one of four

^a This has on one side a head like the termination of a label, but no label seems ever to have existed.

^b This has a horizontal wooden lintel, and is considerably later than the two-light window below it.

^c When this doorway was inserted the west jamb of the turret doorway was cut away for it.



Fig. 18. Fireplace, etc. in room over the great chamber.

bays, with wall pieces set in chases and resting on good corbels carved into heads of kings or queens. (See fig. 17.)

The room itself was a fine and lofty chamber, and was probably that of the ladies of the household.

The garderobe tower which has already been mentioned was built outside the castle wall at the same time as the block just described, and to the north-east of it. It is oblong in plan, with a long side against the wall, and contains four floors of bedrooms and garderobes, three of which were entered by narrow passages from the great chamber block and the contemporary rooms to the eastward.

The ground story contains two bedrooms, each about 9 feet square, and with a deep window recess on the north with stone side seats and a trefoil-headed light. Opening out of each room by a shouldered doorway is a passage, lighted by a square-headed loop, with ascending steps to a garderobe chamber, lighted by a similar loop. Both passage and garderobe are roofed with slabs resting on corbelling. The garderobes are quite complete, with the exception of the wooden seats.

The first floor contains a pair of chambers similar in every way to those below, but as will be seen from the plans the passages to the garderobes are differently arranged, and the latter are lighted by trefoiled instead of square-headed loops.

The second floor contained one large room, with entrances from both the ladies' solar and the chamber beyond into a passage from which a curiously shouldered doorway opened into the room itself. The room has two square-headed windows on the north, with side seats, and a small square fireplace between them, which has been considerably narrowed by brickwork. The westernmost window has also been reduced to a loop. On the east and west are doorways into garderobes now inaccessible.

The third floor also contained one room only, entered by a passage from the top of the vice from the hall dais. It has a large cupboard recess in the south wall, and opposite it two large windows with a good fireplace between, surmounted by an octagonal chimney, part of which remains. The windows and two others in the east and west walls respectively are tall openings with a transom. To the south of the west window, and a little below it, a trefoiled light is visible outside which may belong to a garderobe.

All the floors and the roof of the garderobe tower were of wood, and the masonry throughout is of excellent character.

To the east of the great chamber block there was originally, as shown by the

fireplaces and doors of intercommunication into the garderobe tower, another block of the same date. It was apparently not so deep from north to south, but owing to its replacement by later work it is impossible to say how far it extended eastwards. This later work is for the most part Elizabethan, and consists of a twin series of three stories of chambers with attics above. (Fig. 19.) The cross wall that divides these has at the south end a circular vice, partly projecting



Fig. 19. South view of lodgings to east of great chamber block.

into the court, which gives access to all the floors. This block seems also to have superseded a fifteenth-century addition to the destroyed fourteenth-century chambers, but the evidence for this is not very strong.

The ground story west of the cross wall is about 33 feet long and somewhat irregular in plan, with an average width of about 16 feet. The west wall belongs to the fourteenth-century work, and has towards the north a doorway

and passage into the garderobe tower, and further south a plain fireplace with segmental head. The north wall has, under a queerly skewed arch, a pointed fifteenth-century window, and a row of corbels to carry the floor above. The east wall has now no openings, but towards its north end is a blocked square-headed doorway with plank lintel. The south wall contains a deep recess with a four-centred head, at the back of which has been inserted a square-headed Jacobean window of three lights in place of the original window. Across the south-east angle of the room is the doorway from the vice, which has likewise an entrance from the court.

The first-floor chamber above has both the west and north walls of fourteenth-century work. The former shows, in its south end, the chamfered jamb of the original entrance from the destroyed turret without, with its later blocking of fifteenth-century masonry. Further on is a corbelled out fireplace,^a plain and square-headed, but with a curiously joggled lintel; and to the north of it the segmental-headed passage of the entry from the great chamber. The passage has a drawbar hole behind the doorway.

The north wall has on the west a narrow doorway into a passage leading into the garderobe tower, and on the east an inserted square-headed window opening under a recess with a four-centred reararch, of the same date as the south and east walls. Most of the east wall is practically a corbelled chimney breast for the fireplaces on the other side. Its north end is pierced by a square-headed doorway, and in the south end is a carefully blocked four-centred doorway,^b set in a mass of inserted masonry. The south wall once had a wide flat-headed window, but this has long fallen out.^c The south-east corner, like that below, has across it the entrance from the vice.

The second floor reproduces practically all the features of the room below. Its fourteenth-century west wall has at the south end the blocked opening of the passage from the destroyed turret, and on the same level outside is a pointed niche that probably served as a lampstead to light the passage itself. The same wall also contains an original square-headed fireplace, and at its north end an entry from the ladies' solar. The north wall has a doorway leading into the garderobe tower and an inserted fifteenth-century window converted later into a square-headed one. The east wall had once a doorway in each end, but only

^a Under this a large corbel seems to have been cut away.

^b The blocking took place when a fireplace was inserted on the other side of the wall.

^c Lord Powis's drawings show it as of three transomed lights.

the northernmost is now open. The south end contains an entrance from the vice and a large flat-headed window of two pairs of uncusped lights.*

The attic story was lighted by a small two-light window on the south, and has at its north end a doorway communicating with the topmost room of the garderobe tower.

The rooms in the block under notice on the east side of the cross wall have the same rhomboidal plan as those on the other side, but are somewhat wider (21 feet) from east to west.

The ground story chamber has an entry from the vice in its south-west corner, and in its west wall an early-looking fireplace with corbelled-out head and mantlesheff. To the right of it is the blocked entry from the other side. The north wall contains two fifteenth-century windows like that further west, set in masonry of the same date. (See fig. 26.) The east wall is formed partly by the Norman bailey wall and partly by the rough blocking of a wide opening into the Norman corner tower. In this block is a rude doorway with wooden lintel. The south wall contains a wide flat-headed doorway from the court, with a splayed four-centred passage.

The first floor is entered from the vice at its south-west corner. Next to the entrance the west wall has an inserted fireplace with wooden lintel, and further on another but original low square-headed fireplace. At the end is a rough doorway. The north wall once had a pair of inserted windows with segmental reararches, but only the west jamb and the arch of the westernmost remain, and the original arrangement is obscured by later patchings. Lord Powis's drawings show the two windows replaced by a wide four-light transomed and square-headed window, probably of wood, corbelled out from the wall. This has long perished, but one of the corbels remains outside. The gap left by the destroyed windows is now crossed by supporting timbers held up by a roughly-built pier of masonry. The east wall has a small doorway (now blocked) through the blocking of the Norman tower opening, and towards its south end a deep recess with a square-headed and transomed four-light window at the back. The recess is now roofless and has a small cupboard in its north jamb. The south wall contains a tall segmental-headed recess with stone side seats, and at the back a two-light square-headed transomed window. At various points round the room are holes and plugs for fixing

* Only the middle mullion is left, and owing to its split and insecure condition the openings on each side have, at the writer's suggestion, been walled up recently to preserve what is left of the old work.

panelling, and Lord Powis's plan shows, as suggested by the fireplaces, that it was subdivided by partitions into a large northern apartment and two smaller southern chambers.

The second floor has in its west wall a nice re-used fireplace *temp.* Edward IV. with panelled jambs and curiously curved head, and to the south of it a poor and small fireplace with wood lintel, also an insertion. At the north end is a narrow doorway. The north wall contains a large inserted square-headed transomed window of five lights (see fig. 26), and the south wall a two-light window set in a deep recess, with side seats like that in the room below.^a To the left of the window is the projecting brick chimney of a small and late corbelled-out fireplace. The three fireplaces show that the room was subdivided like that below.

The east wall has in its south end a deep and wide recess over that in the room beneath. This has on the north a jamb of a destroyed doorway, at the back a small square light, and on the south a doorway on to the rampart walk of the bailey wall. The north doorway opened into a vice leading up to the attic above. This had a fireplace in its west wall, and on the south a small two-light square-headed window and another single-light window.

The flues of the three inserted fireplaces in the west wall of the rooms just described run up into a picturesque stack formed of as many chimneys,^b built of brick and still almost perfect (fig. 19), and both in front and rear the block just described is finished off with a battlemented parapet. All the floors and roofs are gone.

The early tower at the north-east corner,^c though flush with the castle wall on the north, projects beyond the bailey wall on the east. For half its original height it was at first open to the court, but the arch into it was soon closed with a rubble wall in which may still be seen two Norman loops, one above the other, showing that it was then divided into floors. In the fourteenth century the Norman arch was taken out, its jambs carried up higher, and a new arch thrown across at the second floor level. This in turn has been walled up.

The basement of the tower once had a late doorway from without in its south

^a These windows differ so much from the others in the block as to raise a question as to their date. Their side seats and the relieving arches over the lintels are quite early features, but their square-headed lights have never been cusped, and the transom of the lower window is not an insertion. They may be the only unaltered windows of the block.

^b The plan of each shaft is an eight-pointed star.

^c This tower is clearly identical with that called Pendover Tower in the legendary History of Fulk FitzWarin.

wall. It now contains a modern flight of steps down from an Elizabethan doorway opening from the top of the outer bailey wall, but Lord Powis's plan shows the tower as filled with a winding wooden staircase to the adjoining floors.

The first floor of the tower has in the north wall a mutilated Norman doorway opening from a wall passage running westwards, and lighted at the back by a loop. Later works have blocked the passage, which formed a continuation of the original rampart walk along the north side of the Castle. In the corner of the room opposite the Norman doorway is another, now walled up, which once led on to the walk along the top of the bailey wall.

The second floor has the Norman blocking and window on the west, a large Elizabethan four-light transomed window (now blocked inside) on the east, and on the south an Elizabethan fireplace and doorway.

There is also a third story to the tower, a fourteenth-century addition, accessible only by a doorway from the leads to the west. In its east wall is a good flat-headed window of two lights.

Beyond the fact that the blocks of buildings east of the great hall contain a series of living rooms and bedrooms, it is impossible to say anything further about their use. An inventory of the furniture, etc. in the Castle in 1650^a gives the then ascriptions of all the rooms, but as these are clearly not named in any kind of order, it is useless to try and assign them. Lord Powis's plan names only the hall and the "council chamber" (or great chamber) east of it.

Returning now into the bailey, one other feature must be noticed, that immediately to the south of the block last described there is, against the bailey wall to the east, the weathering of the roof of another building that there abutted. It ends just where a continuation of the line of the great chamber block would have met the wall, and is suggestive of the fourteenth-century buildings having originally extended as far. Below the weathering is a blocked segmental-headed doorway from without.

Passing westwards to the further extremity of the hall block, it will be seen that there are evident traces of a two-storied range of buildings having extended from it against the castle wall as far as the thick wall enclosing the court of the great tower. In the list of Sir Henry Sidney's works is included the

makyng of a ffayre howse of lyme and stone upon the backside of the kitchin wthin the said Castle wth divers and sondry chambers aswell for lodgings as other offices.

^a Printed in the Hon. R. H. Clive's *Documents connected with the History of Ludlow, and the Lords Marchers* (London, 1841), 41-58, from Harl. MS. 4898.

This "fayre howse" must have formed the larger part of the range in question. From the cutting away for it of a stringcourse against the wall on the south it was about 20 feet wide and 54 feet long, and abutted on the north against another building of the fourteenth century, which filled up the wedge-shaped corner between the hall block and the Norman outer wall. As the side of this building which faced the court has disappeared, not much can be said about it. Its ground story was apparently a cellar or store, entered and lighted from the court, and containing a stair to the upper story. This had in the north end of its west side a narrow square-headed doorway opening into a vice to the rampart walk and an adjoining garderobe. Further south is a deep recess with pointed head, originally with a window at the back, and just to the left of it a low square-headed fireplace. Beyond the fireplace are the toothings of the destroyed outer wall, and extending northwards from the same line is a row of corbels that carried the first floor. Against the solar block are the remains of a raking series of an upper row of corbels that helped to carry the roof. (Fig. 13.)

The extent of Sir Henry Sidney's "fayre howse" is marked by the plastering on the castle wall. The ground story had at its north end a fireplace with wooden lintel, and towards the south a three-light flat-headed window now blocked internally, but visible outside. In the south end was a doorway cut through the wall of the great tower court. The upper story had towards one end a fireplace, apparently Elizabethan, but narrowed by later brickwork, and further south another but inserted fireplace of poor character, and formed wholly of brick. The outer wall and divisions of Sidney's building have long disappeared.

Extending from it eastwards against the thick cross wall at its south end was a pentise or low building between it and the great kitchen. The area of this is now covered by the huge mound of the fallen kitchen chimney, and no investigation is possible save at great expense.

The great kitchen is a building of the same date as the hall, 31 feet long and $23\frac{1}{2}$ feet wide, abutting on the earlier wall enclosing the great tower court, which forms its southern side. Its eastern side is standing to some height (see fig. 6), and contains a large square-headed and transomed window of two lights, rebated for shutters, and set under a widely splayed recess. To the south of this is a low flat-headed inserted Elizabethan window also of two lights. The north side has in its east end a broad pointed doorway from without, with a drawbar hole in the west jamb. Further west was originally a large window like that in the east side, but this was afterwards blocked and carried up higher on account of an added building outside.

The west side of the kitchen is much ruined, but contained the great fireplace. Another fireplace was added in the sixteenth century against the south side, and a pile of ovens in the south-west corner. Along the east side are some remains of masonry that probably carried a wooden dresser. In the north-west corner is an original skewed passage from a small outer doorway, and in the south-east corner an inserted doorway (probably Elizabethan) with wooden lintel. The stone-flagged floor remains throughout, but of the roof, which apparently ran gablewise from north to south, nothing is left.

Outside the kitchen to the north we uncovered the foundations of a building measuring $21\frac{1}{2}$ feet by $27\frac{1}{2}$ feet externally, divided by a cross wall into two unequal parts. Lord Powis's plan shows only the west wall of this, and as containing a doorway and a window to the larger room; and in the west end of the inner room the base of a large oven. The words "Old Pastry" written against this probably explain the former use of the building.

It will be seen from the plan that it is not unlikely that the east side of the building just noticed was traversed by a pentise from the kitchen to the hall steps.

The massive wall against which the kitchen is built extends some 16 or 17 feet eastwards of it, and then returns southwards as far as the Elizabethan block that formed the judges' lodgings. It has a uniform thickness of 5 feet and is apparently of early thirteenth-century date. The angle of it eastward of the kitchen is canted and has just to the west a mass of later masonry, about 6 feet wide, standing up against the wall buttress-wise, but without bond. West of this again is an interval of 5 feet 8 inches in which is set a wide round-headed doorway, having on the right a block of contemporary walling about 6 feet long. (See fig. 6.) The buttress-like mass to the east marks the cutting away of a similar block, and the two perhaps formed parts of the sides of a massive porch or tower covering the doorway between them. This was apparently taken down and the present condition established when the great kitchen was built in the fourteenth century.

The doorway just mentioned opens into the court of the great tower. This is roughly square in plan, but its south-east quarter is filled by the great tower itself.

The east wall of the court shows in its lower half part of a battering plinth of earlier date, and in its upper half, next the great tower, a skew passage from the judges' lodgings on to a destroyed balcony or gallery at the first floor level.

The north wall is that against which the kitchen is built. In its east end is

the segmental reararch of the entrance doorway and beside it the doorway from the kitchen.

Further on is the bond of a destroyed wall, 4 feet 5 inches thick, which originally extended across to the corner of the great tower. After it was taken down a wide and shallow recess with a wooden lintel was made on its line at the ground level, either in Elizabethan or early Stewart days.



Fig. 20. West side of court of great tower.

Extending westwards from 15 feet 3 inches beyond the cross wall is the weathering of the roof of a building of the same age as the destroyed pentise on the kitchen side. It was apparently two stories high, but its extent westward is uncertain. It probably extended to the tower there.

The west wall of the court is also the outer wall of the Castle, and has in its north end a square-edged round-headed doorway into the Norman tower outside. (Fig. 20.) The interior of this tower is at present inaccessible. From the jointing

visible in the masonry it is clear that when the tower was first built the castle wall was only half its present height, and that the upper part of the tower had a wide opening towards the court. The tower itself is still complete, even to some of its battlements. South of the tower is a wide and deep Elizabethan recess, with wooden lintel and a small two-light window in the back, and above it another large inserted window, now blocked. Beyond these is a third inserted window, also blocked, above which starts the stone weathering of the gabled roof of a destroyed chamber that extended eastward. This was subsequently replaced by a two-storied building along the wall, in the upper part of which are the chases for the wall-pieces of its roof. It was lighted by the several windows just mentioned, and perhaps served as the brewhouse. The top of the wall retains most of its parapet, and has at each end a flight of steps and ascending battlements up to the towers between which it is built.

All the features just described are shown in fig. 20.

The south side of the court is formed by a return of the Norman curtain wall towards the great tower. It has at its west end an opening 11 feet wide into the Norman corner tower. This opening is of the same width as the inside of the tower, and was originally higher; it is now spanned by a segmental fourteenth-century arch at about half its former height to allow of a room behind. (Fig. 21.) The basement contains the remains of a huge oven or drying-kiln, built of stone slabs with a domed roof. The front, which has been torn away, contained the flue, and as this is carried up through the thickness of the later arch above, the oven must be of the same date.

Over the oven was a room with a fireplace and loop in its north wall, and in the south-west corner a Norman doorway into a garderobe with wall passage running northwards. A doorway into this passage from the curtain wall is now blocked by an added staircase on the parapet walk. This stair led up to another room in the upper story of the tower, which is a fourteenth-century addition. This room has a shouldered doorway into a garderobe over that below, and beside it, also in the west wall, a loop. Another loop commands the stair to the north, and there is a third looking south. To the east of the oven tower the outer parapet of the wall is perfect all along up to the great tower, but towards the corner tower it has a raking ascent to protect a flight of steps up to the topmost room in the tower itself. (Fig. 21.) There remains also against the tower a fragment of the inner parapet, to its full height of $6\frac{1}{2}$ feet, corbelled out so as to allow of a passage between it and the steps from the parapet walk into the middle chamber of the tower. These features are all of the fourteenth century.

In the north-west corner of the court is a well, 7 feet 6 inches in diameter, now partly filled up. It was probably covered by a wellhouse, but of this there are no remains.

The great tower, or keep, which occupies the south-east quarter of the court, was considered by Mr. G. T. Clark to be "one of the most curious and perplexing Norman keeps now standing," and he concludes his description of it by saying: "Of course all this is a matter of opinion only, the alterations having been so



Fig. 21. Oven tower, etc. in court of great tower.

great, and of so complete a character, that it is difficult to form even a theory concerning them."

That the tower is "a most curious and perplexing" structure there can be no question, but its story is not so difficult that it cannot be read, especially with the aid of more accurate plans than the poor versions in outline given by Mr. Clark.

The tower is four stories high, and with the exception of its northern battlements is standing complete to its full height.

The lowest story consists of a lofty vaulted basement 20 feet high, entered by a recessed plain and heavy four-centred doorway, and a descending flight of rough modern steps. To the right of the doorway is a window of the same date, also deeply recessed, consisting of two square-headed lights, once barred and shuttered, but with no traces of glazing. Both doorway and window are shown in Plate XXXIX.



Fig. 22. Remains of wall arcade, etc. in basement of great tower.

On entering the basement several perplexing features present themselves. The south end is a build-up, with rough blocks of masonry in the angles; the west wall is mostly patchwork; and the east wall contains a mysterious wall passage and is decorated with a curious early Norman arcade. There are also difficulties with regard to the vault.

The early wall arcade gave the first clue to the story of the tower. It consists of two arches only, but these are obviously part of a series that extended further north. (Fig. 22.) It follows therefore that the present north wall of the basement belongs to a rebuilding of the whole of the north front of the tower, a condition of things that is perfectly evident externally now that the ivy has been stripped from the walls. The question that next suggested itself was where could the original north wall have stood? Here again the arcade helped. Had it been of three arches the new wall would hardly have been built where it is, but had there been four arches the old wall would have been quite clear of the new. This seemed to be so obviously the case that the writer obtained permission from Lord Powis to excavate for its foundations, and with immediate and satisfactory results. Just underground was a broad mass of masonry parallel with the tower and 31 feet long, with the base of a blocked doorway and several ascending steps at its eastern end in a return of the wall southwards underneath the present front. (Fig. 23.) The western end showed a similar return under the newer work. (Plate XXXIX.)

Both these return walls were $8\frac{1}{2}$ feet thick. The north wall, which was only $7\frac{1}{2}$ feet thick, was subsequently found to be largely formed of the blocking of a wide arch of two orders, that originally opened into the tower. This blocking formed part of a much larger work extending northwards of the tower for about 7 feet and eastwards and westwards for about 10 feet, faced externally by a bold battering plinth.

These discoveries, and the re-examination of the tower which they necessitated, made the story quite clear.

The basement was originally the chief entrance into the Castle, and consisted of a T-shaped structure projecting from the line of the bailey wall, with a broad south front $44\frac{1}{2}$ feet across, and a vaulted passage extending inwards with a total length of $52\frac{1}{2}$ feet. (Plate XL.) The wide arch of entry has long been destroyed and the opening walled up, but part of one of its chamfered imposts remains on the west. Behind it was a porch $15\frac{1}{2}$ feet wide and about $8\frac{1}{2}$ feet deep, but the end walls have been roughly refaced nearly up to the top in the same plane as the gate-hall walls. In the north-east angle is the respond shaft of a destroyed arcade of two arches in the end wall, and beside it a small square-headed doorway into the wall passage. The door of this was single and protected by a drawbar, but the southern jamb has been destroyed. The gate-hall was $29\frac{1}{2}$ feet long and $14\frac{1}{4}$ feet wide, with an arch between it and the porch, but all traces of this have been obliterated, except a shaft on the east that carried the outer order. For 8 feet from the arch there is on each side a strip of plain ashlar, against which the inner doors folded



LUDLOW CASTLE. EXCAVATION OF 1903, SHOWING FORMER EXTENSIONS OF GREAT TOWER.

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back, but beyond, the walls were relieved by arcades about 8 feet high, each of four round-headed arches, square-edged, and carried by bold detached shafts with curious cushion capitals without any abacus, not unlike those in the inner bailey chapel.* (Fig. 22.) Of the eastern arcade two arches and part of the third are left, and its northernmost base was found outside. (Fig. 23.) Of the western arcade only part of the first arch is left, the rest having been destroyed and the wall neatly made good when the new north wall was built. In the ashlar



Fig. 23. Part of first staircase of great tower and respond base of wall arcade of original gate passage.

walling south of the eastern arcade is a square-headed doorway into the wall passage. (Fig. 22.) The door was hung within, and could be secured on the inside by a bolt or bar. The passage, which is only $2\frac{1}{2}$ feet wide, is faced throughout with ashlar and roofed with stone slabs. As will be seen from the plan (Plate XL.), it is practically a way from the gate-hall to the outer porch

* Similar arcades, characterized by the same rude cushion capitals without upper members, exist in a tower chapel in Richmond Castle, Yorks, of a date not later, probably, than 1086.

round the doors when shut.^a This unusual arrangement seems to have served the same end as the later wicket, without the disadvantage of being rushed or burst open. It could also be used as a sally port. The north end of the gate passage was an open archway of $11\frac{1}{2}$ feet span, and of two orders outside. And the south end no doubt had a similar archway, but defended by double doors inside.

The gate passage was probably intended to have been covered originally by a semicircular barrel vault, but not until a later period, when the two ends were walled up and the passage converted into a prison chamber, was a pointed barrel vault inserted with square openings in it from the chamber above. Through these prisoners could be let down with ropes, as well as food and drink for their sustenance. At a still later date, when the north wall of the tower was taken or fell down, the northern part of the vault came down with it. During the subsequent repairs a transverse arch was built for its security against the remaining portion, and when the new wall was carried up the vault was again completed.

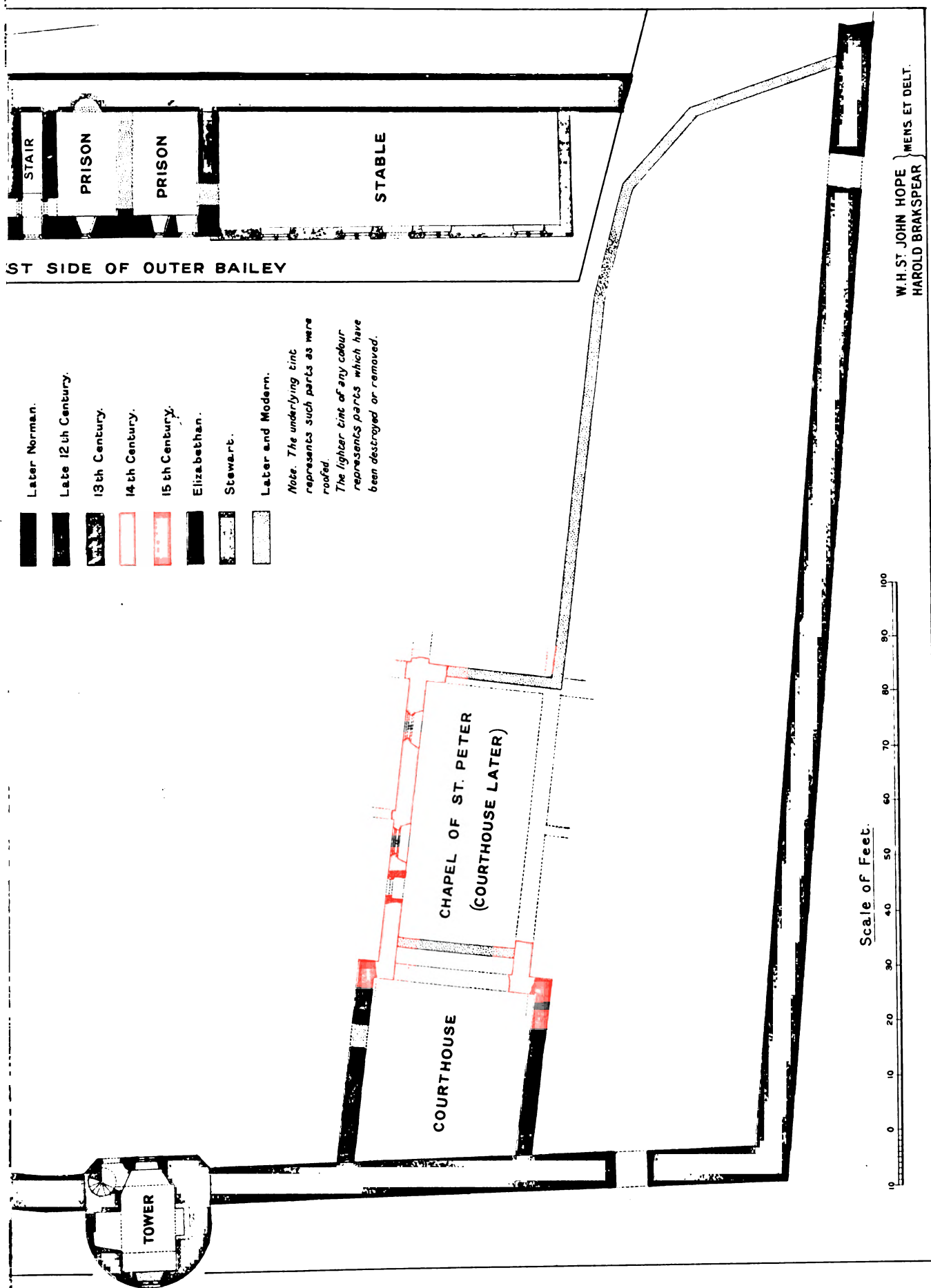
After the rebuilding of the north wall the basement seems to have been continued in use as a prison, but it was now divided into two floors. The upper was on the level of the new doorway, and to carry it rough masses of masonry were built at the south end^b and in the eastern wall arcade. (See fig. 22.) The hole opposite the latter was made for the same purpose. The lower floor could not have been much more than 5 feet high. It was lighted on the south by a loop (now blocked) pierced through the blocking of the old entrance, and on the north by a narrow loop beneath the new window. How it was entered there is nothing to show, but probably by a trapdoor and descending steps from the floor above.

On the west side of the basement is an added block of slightly later date of about 10 feet projection, built into the angle of the T-shaped front. It was probably an afterthought. Into it a modern entrance has been forced which opens into a large garderobe pit spanned by a strong transverse semicircular arch springing from rude imposts. The pit does not, however, seem to have been utilized until a quite late date, and then only to a small extent.

On the eastern side of the tower the added masonry with the battering plinth is returned along it for 26 feet, as far as a small vaulted chamber of the same date, described below.

^a The same principle exists in the magnificent late fourteenth-century gatehouse of Thornton Abbey, Lincolnshire.

^b There is still embedded in this against the outer wall a massive beam, one foot in depth, with the broken ends of the timbers that carried the floor.



LUDLOW CASTLE, SALOP. PLAN OF GROUND STORY OF INNER BAILEY AND OF BUILDINGS IN OUTER BAILEY.

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The conversion of the old basement of the tower from a gatehouse into a prison, and the addition of the extra thickening round it, are evidently works coincident with the addition of the outer bailey, and the making of a new entrance into the inner bailey beside the converted tower. But the added thickening not only blocked the old archway from the tower basement, but the smaller doorway east of it. This opened on to a straight stair leading directly up to the first floor of the tower, where the continuation of it may still be seen. Some other way up



Fig. 24. Doorway of entrance into the great tower.

must therefore have been made in its stead. This appears to have started on the outer edge of the battering plinth, close to its western end, and to have ascended southwards along the west face of the tower basement.^a (See Plate XXXIX.) The stair must have stopped at a landing against the garderobe addition, since there is no doorway into the latter, and then turned at a right angle through a new doorway in the tower wall. But as this part of the tower has disappeared in the later rebuild-

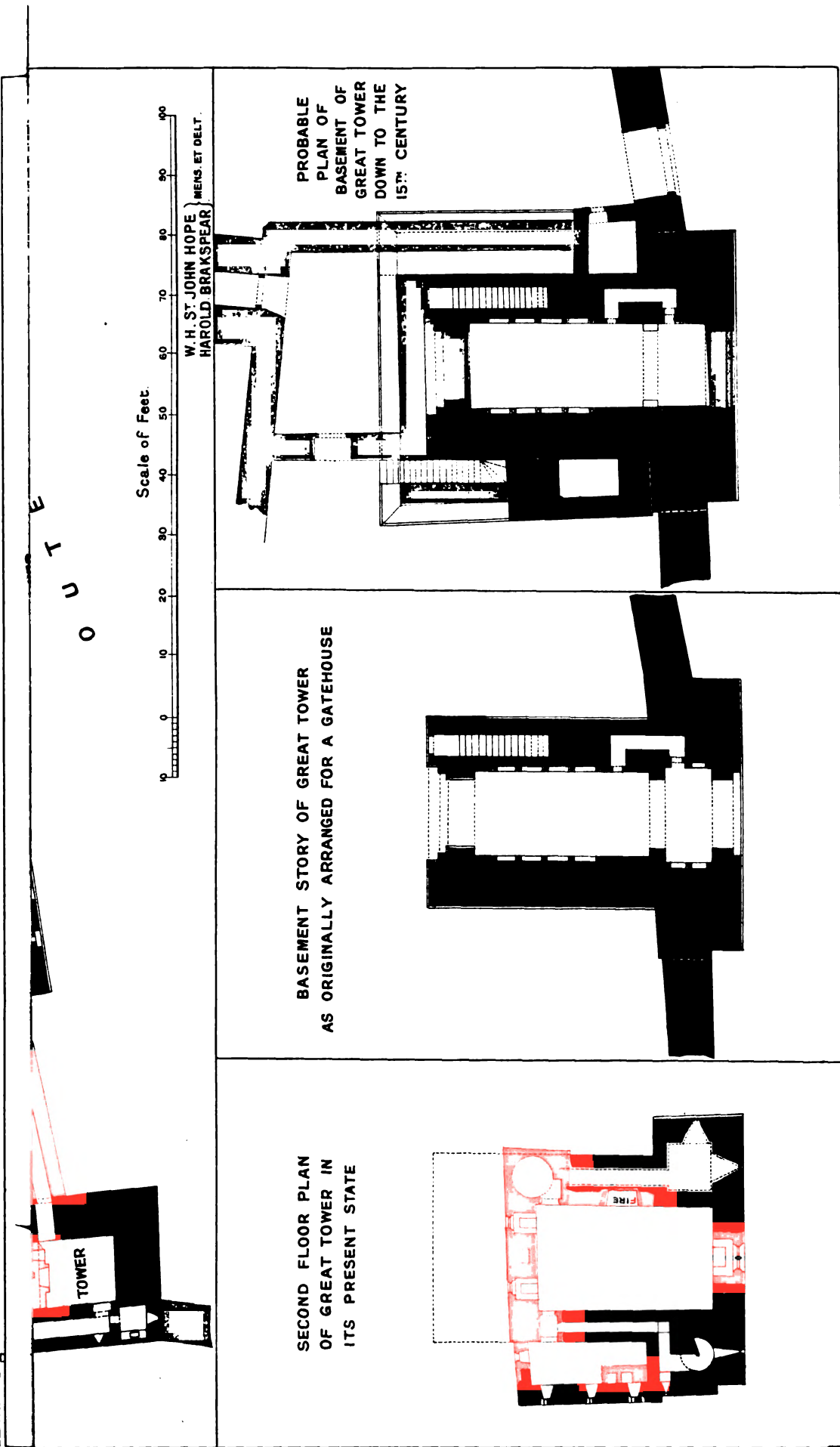
^a It is possible that there was a similar staircase on the eastern face of the great tower leading up to the rampart walk of the bailey wall.

ing, the whole question is literally in the air. How far the battering plinth and the wall above it were carried up is another question that can not now be solved. But possibly the work never got any higher than we found it, except on the west where the new stairs were. What is certain is, that at some date quite early in the thirteenth century the thick wall was built which encloses the court of the great tower, and on the east side this is built right on top of the battering plinth and extended with it as far as the porter's lodge. (See Plate XXXIX.) Moreover, as has already been shown, there was a cross wall from its western return to the great tower. This cross wall met the latter exactly on the east side of the new stairs, and probably formed a defence to them on that side. It was no doubt pierced by a doorway giving access to the part of the court which contained the staircase and the equally important wellhouse.

From this somewhat lengthy attempt to explain what are certainly a number of very interesting problems it is time to resume the examination of the tower.

The first floor is now reached by a stair or vice in the north-east angle, approached by a short passage with rubble vault from a handsome entrance doorway outside pierced through the wall of the great tower court. (Fig. 24.) This doorway is four-centred with continuous mouldings and surmounted by a band of quatrefoiled panels. Above this was a pediment of some sort, now gone, carried by bold square shafts with sides relieved by sunk panels and blank shields. The vice passage traverses the remains of the added masonry on the east face of the tower, which, with the porter's lodge beyond, supported a chamber of some kind into which there was an entrance from the vice itself.

The first floor is entered a little higher up by a square-headed doorway from the vice, and originally included the later second floor above, with which it formed a lofty hall, $29\frac{1}{2}$ feet long by $17\frac{1}{2}$ feet wide, with steeply pitched roof. The doorway is inserted within a tall opening, $10\frac{1}{2}$ feet to the springers, with a segmental arch, apparently of the fourteenth century. Of the same date as the arch is the blocking of a broad Norman recess beyond it, the south jamb of which, with ashlar quoins, is standing for 17 feet up. The depth of the recess is unascertainable, but it probably extended back into the thickness of the wall some 5 or 6 feet, over the old staircase beneath it. The Norman walling that forms the rest of this east side has in it a plain round-headed doorway from a vaulted lobby, about $7\frac{1}{2}$ feet square, outside. The lobby floor is at its original level, but owing to the difference in height of the projected barrel vault of the tower basement and the inserted pointed one, the sill of the doorway is now 18 inches below the first-floor level. For some reason the arch of the doorway has been altered and



LUDLOW CASTLE, SALOP. PLANS OF GREAT TOWER AND OF FIRST FLOOR OF BUILDINGS IN INNER BAILEY.

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the jambs cut away.^a In the south side of the lobby was originally a narrow round-headed loop with widely splayed jambs, but this has been widened to twice its old width; the east jamb cut back and the sill lowered to make a seat. Opposite the window is a tall round-headed recess or panel, within which is the head ^b of the ascending staircase from the original entrance into the tower. The staircase was probably walled up on its disuse, but is now open again, and, as the steps are all perfect, can be descended as far as the later vice which intercepts it midway. The east side of the lobby is a round-headed doorway ^c from the rampart walk of the bailey wall. The lobby vault, which has no ribs, and the Norman walling retain much of their original plastering.

Returning into the main chamber it will be seen that the south wall originally contained two Norman windows, of the same form and fashion as a perfect one in another lobby to the west. But their place is now taken by a wide late Tudor opening with wooden lintel. The west wall, which is Norman throughout, has at its south end a tall round-headed arch into the lobby just mentioned. This measures $5\frac{1}{2}$ by $7\frac{1}{2}$ feet, and has an unribbed vault. In the south side is a tall and deep recess with a narrow window in the back, the opening of which was closed by a shutter, but the lower part of it has been walled up. To the west is a passage through the thick wall from a doorway opening from the top of the bailey wall.

The remainder of the west side of the main chamber is plain, save for a hole knocked through it from a recess on the other side, and has at its north end a square-headed fifteenth-century doorway into a bedchamber.

The north end of the room is all of the fifteenth-century rebuilding, and has a low fireplace in the middle between two deep window recesses with four-centred heads, each with a square-headed light at the back (fig. 25); the sills of these are flat to serve as seats. The lights were barred and shuttered, and have no glass grooves. The room was 10 feet high with a wooden ceiling which formed the floor of the room above.

The bedchamber measures about 17 feet in length by some 8 feet in width, and is all of the Norman period; it is still covered by its original unribbed rubble vault of two bays. On the north is a round-headed loop widely splayed. The west wall had two similar loops, but the northernmost has been widened out into a three-light window with wooden mullions and lintel of seventeenth-century date.

^a It is shown as built up in Lord Powis's plan.

^b The east jamb has been cut down in late times.

^c The south jamb has been cut down into a chamfer.

The other loop is covered by a projecting mass of masonry containing shafts from two garderobes above. The east wall retains the original round-headed door passage, and south of it two deep round-headed recesses, each 2 feet above the floor and 5 feet 9 inches high. In the south end of the room is a shouldered doorway with tall round-headed reararch into a vaulted chamber with a garderobe at the further end. To the right of the garderobe is a recessed seat, and over it a small loop.

The second floor of the tower has been formed in the upper part of the original main floor, when the north wall was rebuilt, by the insertion of a wooden floor. Like the room below it was 10 feet high, and entered by a square-headed doorway from the vice at the north-west corner. In the middle of the east wall is a plain fireplace inserted in the fourteenth-century blocking of the wide Norman recess. The south wall contains, within a wide four-centred recess with stone side seats, a tall square-headed window of two trefoiled lights. This was barred and shuttered, but has no glass grooves. The north wall has two square-headed windows (fig. 25), each set in the back of a deep recess with segmental arch and stone side seats. The west wall is plain Norman work, but has at its north end an inserted doorway. This opens into a room about 7 feet wide and 20 feet long over the bedchamber below, with an inserted square-headed light to the north, and three loops, two square, the southernmost round-headed, on the west. The weathering on the end walls shows that the room originally had a lean-to roof. The south-west corner of the room is now intruded upon by the masonry block of two garderobe shafts from a chamber above.

Opening out of the left jamb of the doorway into the room just described is a passage nearly 2 feet wide running southwards through the thickness of the wall for 19 feet.* It then returns at a right angle for $8\frac{1}{2}$ feet, with a small loop at the far end, and opens out southwards into a wider passage leading to a vice up to the top of the tower, now blocked; it appears to have been the only way originally by which the chamber was reached.

The third floor, like those below, is of Norman work on three sides, with a rebuilt north end. It was originally an open court which enclosed and concealed the high-pitched roof of the Norman tower, the weathering of which is still visible on the south wall and along the east and west sides. On the rebuilding of the north end it was converted into a room. It was entered from the new vice by a four-centred doorway, and has in the north wall two

* In the earlier state of the tower this passage must have extended further north, and was perhaps joined to another in the thickness of the north wall.

windows like those in the room below, but with trefoiled instead of square-headed lights. (Fig. 25.) In the east wall is a fireplace in a projecting block of the same date as the north wall, and in the south wall is a two-light window like that below. The only opening on the west is a doorway at the north end into a garderobe chamber with two garderobes in the south-west corner and a broad pointed window in the north end. This chamber was added when the north front was rebuilt.

In the thickness of the wall forming the east side of the second and third floors there must be a wall passage leading to a chamber, now inaccessible, over the vaulted lobby at the head of the original staircase. The existence of this chamber is proved by the blocked loops that are still visible externally which lighted it on the south and east. How the passage to this chamber was reached must remain a matter of conjecture, but possibly by a vice from above in the destroyed north-east corner.

The present rampart level of the tower has a square turret at each corner. That to the north-east contains the later vice, but has lost its top. The south-east turret is mostly Norman and retains much of its battlement, as do the parapets of the east and south walls, but the crenels have lost their copings. Owing to the height of the south-east turret it had a stone stair up to it from the east wall. The corresponding south-west turret is also Norman and in much the same state, but its battlements are mostly modern. The top, which is surmounted by a flag-staff, is still accessible by a restored flight of steps from the rampart of the west wall, and from it there is a magnificent view of the surrounding country, barred only by the hills to the south-west. The north-west turret has lost its parapet, and is otherwise mutilated. It is of the same date as the rebuilt north front.

Externally the great tower shows on its west face: (1) at the base the opening broken through into the garderobe pit; (2) on the first floor the seventeenth-century three-light window of the bedchamber, with a blocked loop beyond, and next to the angle the garderobe loop with its shoot beneath. At this level too is the shouldered doorway of the entry into the tower from the rampart walk, with curiously constructed head. The second story shows the modernized openings of the upper chamber windows.

The north front has lately been freed from the mantle of ivy that has concealed most of its architectural features for so long. (Fig. 25.) It can now be seen to be of two dates: a strip to the west from ground to summit being for the most part Norman; while the main portion for its whole height belongs to a late fifteenth-century rebuilding, when the old front was taken down and a new one built up

12 feet further south. For what reason this was done, and why the tower was so reduced in size, are questions still awaiting solution.^a The new face has at its foot

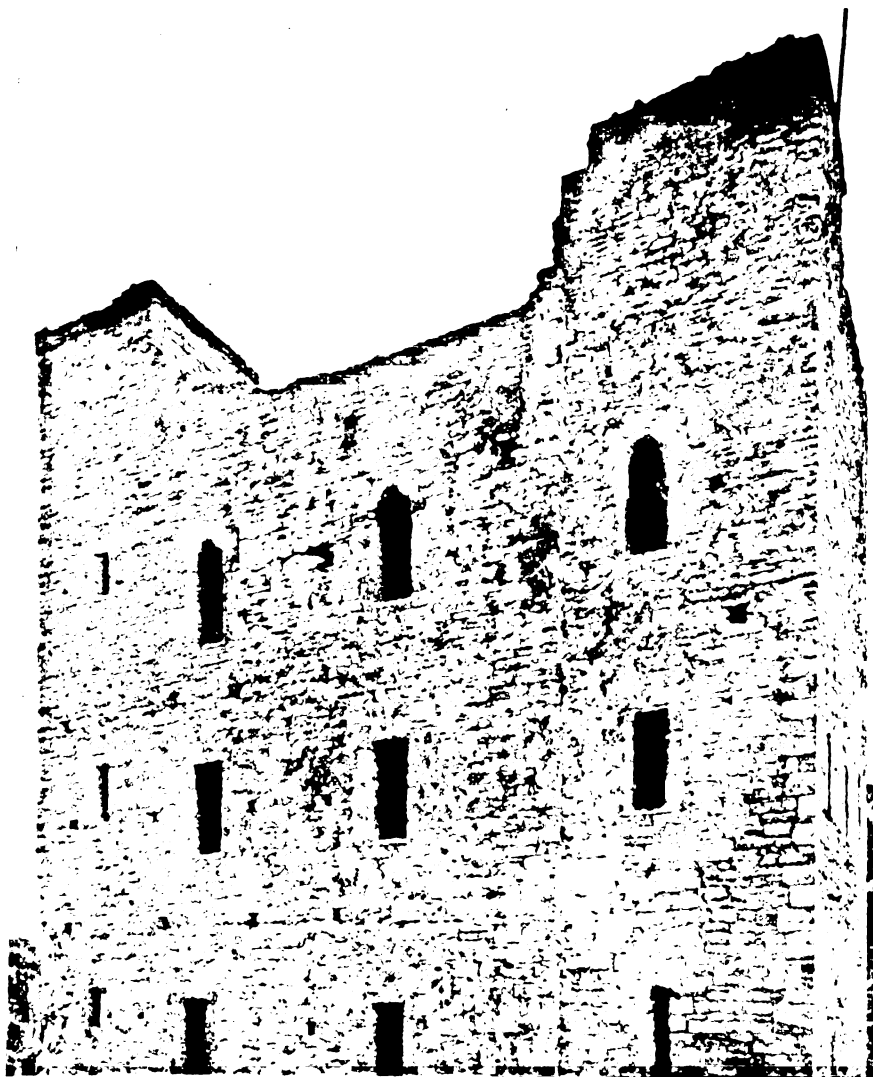


Fig. 25. Upper part of north front of great tower.

^a In the legendary History of Fulk FitzWarin, in the account of an early siege of the Castle it is stated : "E le halt tour q'est en le tierce bayl de chastel, qe fort e bien ovrée fust qe home ne saveit à cele oure nul plus fort ne meylour, fust de grant partie abatu, e cele bayle à poy tote destruyt." Thomas Wright, *The History of Fulk Fitz Warine* (London, Warton Club, 1855), 51. This event is believed to have occurred in the latter part of the reign of King Henry II. but if the tower were really partly destroyed then, it is difficult to suppose that it was not rebuilt until late in the fifteenth century. Possibly the added late twelfth-century work on the north side belongs to the repair.

the doorway and window of the basement, and a little higher up, to the east, a square-headed Elizabethan opening from the vice on to the destroyed wooden balcony. Above this is a succession of square-headed loops lighting the vice. The main windows consist of pairs of square-headed lights to the first and second floors, and the taller cusped pair that lighted the uppermost floor. In the Norman strip there is an original loop on the first floor, an inserted square-headed light on the second, and a larger light on the third, set apparently in walling of its own date, extending from just below it up to the top of the turret. This should all be contemporary with the rebuilt section of the front. (See fig. 25.)

The east face is covered as to its lower part by the porter's lodge and the block north of it, up to and including the porch to the vice. The first floor shows a square-headed door from the vice into the former room over this block, and to the extreme south the doorway from the old rampart walk into the tower.^a Above this doorway is one of the blocked loops that lighted the walled-up chamber, and further north, near the vice, may be seen one side of an inserted loop or window which must have been in the back of the destroyed fourteenth-century recess. The main portion of the east face shows the wall plastering and roof lines of the Elizabethan lodging that abutted on it.

The south or principal front of the tower (see fig. 5) has at its foot part of a bold battering plinth and stringcourse, interrupted by the rock on which the tower stands. Above this the front is divided by (i) a half hexagon stringcourse and (ii) a set-off into three unequal stages. The lowest stage, which has a slight batter, shows plainly the filled-up opening of the original entrance, but the arch stones have been removed and the blocking bonded into the jambs. In the blocking are two small square-headed two-light seventeenth-century windows, now walled up, which once lighted the two floors in the tower basement.

Upon the first stringcourse stood originally the widely chamfered Norman loop of the staircase lobby on the first floor, but when this was widened it was likewise lengthened, and now comes below the stringcourse. The middle part of the wall is much patched. It has, resting on the string, the low Elizabethan or Stewart window of the first floor, now a mere hole, but once of two lights with separate heads turned in brick. Just to the west of it may be traced one jamb of one of the pair of Norman windows destroyed on its insertion. These were evidently like the perfect lobby window still further west. It shows a plain

^a This doorway was shouldered, with a horizontal lintel and a semicircular tympanum above, but these have been broken out.

square-edged round-headed opening recessed within a square-edged arch carried by bold jamb shafts, built in courses, with cushioned capitals with proper *abaci*. Over the middle window are the inserted fifteenth-century windows of the second and third floors. To the east of them is a small square-headed blocked loop of the walled-up chamber, and on the extreme west a tall round-headed slit that lights the vice in the south-west angle. The upper of the two fifteenth-century windows cuts through the set-off that divides the second and third stages. The latter has no other openings in it.

An unusual dignity is imparted to this front of the tower by the ashlar facing from ground to summit, and by the fortunate preservation of the turrets and parapets. (Fig. 5.)

Before leaving the tower it will be well to summarize the various points in its story. First, there can be little doubt, from the position of the original staircase, that it began, probably during the last quarter of the eleventh century, as a T-shaped gatehouse. Above the vaulted entry there was evidently to have been a chamber, but the difference in the architectural details shows that after the building of the basement other works in the Castle, such as St. Mary Magdalene's chapel, the original hall, etc. were taken in hand before the upper works of the gatehouse were continued. It was then decided to carry it up as a tower, and this necessitated also the addition on the west. These further works are probably not later than about 1130. Some fifty years later the passage through the tower was converted into a prison, a new entrance into the bailey made beside it, and the chemise wall with the battering plinth begun. In the third quarter of the fifteenth century the north wall was taken down and rebuilt, and the tower thus brought to its present form.^a

We may still agree with Mr. G. T. Clark that it is "one of the most curious Norman keeps now standing," but I trust it is no longer one of the most perplexing.

There is one other feature in the interior of the Castle which remains to be mentioned, and that is the conduit.

The last of the recorded works of Sir Henry Sidney in the Castle is

Item for making of a Conduyt of ledd to convey the water into the same Castle of Ludlowe the space of a myle and more in leinght for making of a howse of lyme and stone

^a In the legendary History of Fulk FitzWarin the keep is clearly identical with "le plus halt tour q'est en la terce bayle del chastel, qe or est apelé de plusours Mortemer. E pur cele resoun ad le noun de Mortemer, qe uns des Mortemers fust leynz bone piece en garde." Thomas Wright, *The History of Fulk Fitz Warine* 34.

being the hedd and for a goodly lardge founteyne of lyme stone and ledd wth her ma'c Armes and divers other Armes therupon and for conveyeng of the water in ledd from the same founteyne into the garden and divers other offices wthin the howse, and from thens into the Castle streete wthin the said Towne of Ludlowe and there making of a founteyne of lyme and stone.

There can be little doubt that the fountain with the Queen's and other arms stood somewhere within the inner bailey, but it is not shown on any of the old plans, and there are no remains above ground. During our excavations search was made for its site, which was soon discovered about midway between the kitchen and the chapel, and as nearly as practicable in the middle of the bailey. Here we laid open the foundations of a stone structure, octagonal without, but circular within, about $7\frac{1}{2}$ feet in external diameter, and raised upon an octagonal step. A shallow drain led northwards from it for about 4 feet, apparently to carry off the overflow. Nothing of the superstructure was found, and it is needless to say that the lead pipes had all been taken up. Where the head conduit was whence the water came is not recorded.

It now remains to examine briefly the external features of that portion of the inner bailey which also forms the outer defence of the Castle. The whole of this stands along the edge of a rugged rocky cliff of varying height, and for most of the year bright with flowering plants and green with bushes, the effect of which adds largely to the beauty and dignity of the grey walls above.^a It will be convenient to begin with the Norman tower on the north-east. For most of its height this is a good example of its date, and carefully built of coursed rubble with ashlar quoins, which are boldly chamfered on the outer angles. The lower half is plain without openings, but higher up is a blocked loop, and to the left of it another, which has been widened eastwards. The topmost stage is fourteenth-century work, and shows to the north a square-headed window of two uncusped pointed lights. West of this is a small square light, apparently of a garderobe, and below it a somewhat large opening which may be the shoot thereof.

From the Norman tower there extends westward for some 30 feet a lofty embattled wall four or five stories high, pierced by many windows of divers sorts and dates which have already been described in connexion with the chambers they lighted. (Fig. 26.) Only the lowest stage is Norman; the rest of the walling dates from the fourteenth century. Next comes the fine and imposing

^a The north front is well shown on Plate XLI.

mass of the garderobe tower, projecting well outwards and rising sturdily in front from a bold battering plinth. It is fortunately complete for its whole



Fig. 26. Exterior view of garderobe tower (from the east) and of main buildings to east of the same.

height. (Fig. 26, and Plate XXXV.) The east face shows at the base, side

by side, the lower openings of two garderobe shoots with shouldered heads, but the northernmost opening is carefully walled up. Higher up may be seen the two little trefoiled loops that light the garderobes on the first and second floors of the tower, and right at the top is the long transomed window of the uppermost chamber. The north front is divided by sets-off into three unequal stages. The lowest stage has at the base, and partly cutting into the battering plinth, the lower ends of two garderobe shoots like those on the east face. Higher up are the two trefoiled lights of the ground story chambers, and right and left of them the small loops that air the garderobes. The easternmost light has in late days been cut down to make a doorway on to a little wooden balcony, the holes for which remain. Above the first set-off are two trefoiled lights like those below, belonging to the first-floor chambers within. Just above the second set-off is a row of four windows. The outermost of these are two trefoiled lights to garderobes, and the others square-headed windows of unequal widths, the westernmost being a mere loop. Above are the two long transomed windows of the chamber in the top of the tower. The western face is practically like the eastern, with some small variations in the disposition of the garderobe loops.

A few feet to the west of the garderobe tower there projects a half-octagon stair turret, lighted by small square-headed loops, and carrying at the top a rectangular look-out. (Plate XXXV.) The intervening strip of wall contains two windows, one above the other. The lower is the Elizabethan two-light window of the great chamber; the upper, a tall fourteenth-century transomed light with trefoiled head under a round-headed arch, which belongs to the chamber above. West of the turret^a is a long stretch of wall, Norman as to its lower half, and of late thirteenth-century work above, and showing there the three northern windows of the great hall, and towards the west the windows belonging to the solar block. The wall here is higher owing to its being carried up nearly to the same height as the north-west turret of the hall. Across the corner between this strip of wall and the Norman north-west tower, which covers here the angle of the castle wall, a four-centred Norman arch is thrown to carry a garderobe on the upper floor, and in the underside is the shoot therefrom. On the east face of the tower is a loop that lights the wall passage to the garderobe, and above it, one over the other, are two fourteenth-century lights belonging to the tower chambers. The lower of these has a trefoiled ogee head; the upper is shouldered. The north face of the tower for good part of its height, that is, the Norman

^a Close to the turret is the two-light Elizabethan window that lights the passage into it.

part, has canted corners, but the added fourteenth-century top story is set back from this, and so the tower looks as if covered by a half-hexagon projection. The only openings on this face are the inserted trefoiled light of the wall passage, and a shouldered fourteenth-century light in the flat wall above.



Fig. 27. Exterior view (looking north) of west side of inner bailey.

The west face of the tower is covered by a fourteenth-century garderobe addition, rising to the same height from a battering plinth laid upon the rock. In the front plinth is a small opening, now blocked, for drainage. In both the faces of this addition are loops airing the garderobe chambers within. (Fig. 27.)

From the north-west tower the castle wall alters its direction and extends in a straight line for $92\frac{1}{2}$ feet to the postern tower. The lower part throughout is of Norman date. Toward the north end, at some height up, is a corbelled-out projection for a garderobe,^a and beneath it a buttress-like mass, which probably contains the shaft from it. (Fig. 27.) A little further south is a square opening with iron cross bars, of the fourteenth century, but blocked within by boards and stones. Some way further along is another blocked window, Elizabethan or Stewart, of three lights under a square head. Between this and the postern tower the wall face is much patched, and may have contained two more windows, one close up to the tower.

The postern tower (Fig. 28) is a square Norman one, but its upper part is either a raising or a rebuilding. In the north face, at some little height from the present ground level, is a square-edged round-headed postern doorway. There are no other openings in the tower save a loop in the west face. Both the tower and the wall north of it retain a good deal of their old embattled parapets.

From the postern tower is another straight stretch of wall extending for $81\frac{1}{2}$ feet to the southern side of the oven tower. The lower half and the oven tower itself are of Norman date. The upper part of the wall is fourteenth-century work, and retains its original parapet, which rakes up to the towers at either end. There are no visible openings in the wall except two small two-light Elizabethan windows near the base of the northern part.

The oven tower (Fig. 27) has a projecting garderobe with a shoot in its lower part corbelled out near its south-east angle. Beside it is a small loop. Over the projection is the shoot of the upper garderobe, and north of it on a higher level is another loop. The battlements of the tower have fallen.

The remaining features of the west side of the Castle have already been described in connexion with the outer bailey.

One other point must be mentioned. In the oft-quoted list of Sir Henry Sidney's works is

Item for making of a ffayre and lardg seate upon the north side of the said Castle wth a howse over the same together with a lardg walke inclosed wth Pall and Tymber.

Some remains of this may still be seen, a little to the east of the north-east tower, where a rocky platform has been left for the summer house and pleasaunce which the entry suggests.

^a Just to the west of this garderobe is the slit of the window that airs it.



Fig. 28. Postern tower on west side of inner bailey.

It will be seen that Ludlow Castle differs from the majority of early fortresses, in that it never had any previous earthen defences, nor any original keep or great tower.

The absence of earthen defences is paralleled by other castles founded on the rock, *e.g.* Exeter, the Peak, and Richmond (Yorks.), where the material taken out of the excavated ditches has been utilized, as at Ludlow, to make walls and towers instead of banks and mounts.

The three castles just named also furnish, like Ludlow, early instances where the original entrance is or was through a gateway, and there was at first no keep. At Exeter no keep was ever built. The tower at the Peak was built in 1176-7, in a corner remote from the entrance; and that at Richmond, completed in 1171-2, stands directly in front of the original gatehouse, which thus became useless. Another example like Ludlow is furnished by the castle of Newark, the work of Alexander, bishop of Lincoln, between 1123 and 1139, where the entrance is also through the basement of the tower.

As regards the history of Ludlow Castle, it has been shown conclusively by the Rev. R. W. Eyton,^a that the account of its foundation by Earl Roger of Montgomery can not be upheld; first, because of the untrustworthiness of the History of Fulk FitzWarin^b which asserts the fact, and secondly, because Earl Roger had not an acre in this part of Shropshire whereon to found a castle.

Mr. Eyton's own views are, however, themselves open to question.

By a process of elimination he shows^c that none other of the lords of the surrounding lands could have founded Ludlow Castle than Roger de Lacy; on the grounds that "he had no other Castle in Shropshire, that Ludlow was environed on the north-west by his enormous Manor of Stanton, [and] that his interest in the adjoining Hundred of Culvestan was equalled by no other."

But in order to account for the absence of any mention of Ludlow in the Domesday Survey, Mr. Eyton has endeavoured to identify it with a Herefordshire manor of Lude, then held by Roger de Lacy of Osbern FitzRichard, the lord of Richard's Castle, who in turn held it of the king.

The objection that future lords of Richard's Castle never appear as seignoral

^a *Antiquities of Shropshire* (London, 1857), v. 234.

^b T. Wright, *The History of Fulk FitzWarine*, 3; and Rolls Series 66, p. 279.

^c *Op. cit.* v. 235.

lords of Ludlow, Mr. Eyton meets by supposing that Osbern FitzRichard lost the seignury, either by exchange, or by *force majeure*, or by the will of the Crown, and because Lude was Ludlow.

For Ludlow itself he also claims an early origin from the fact that certain Saxon coins are stamped *Lud*, *Luda*, or *Lude*.^a

But our Fellow, Mr. H. A. Grueber,^b tells me that he does not think there is any evidence of a mint ever having existed at Ludlow, and that coins marked *LV*, *LVD*, and *LVDE* were actually struck at London.

Dr. Horace Round also informs me that there can not be any doubt that the manor of Lude which Mr. Eyton would identify with Ludlow is identical with Lyde, in the heart of Herefordshire.

Left to myself to find a theory to explain the existence of an early Norman castle at Ludlow, I concluded, after weighing all the available evidence, that Mr. Eyton was certainly right in claiming Roger de Lacy as its founder, but by reason of the site of the Castle being actually part of his great Domesday manor of Stanton. It also seemed plain that, until Roger began the Castle, the place we call Ludlow, like the parallel cases of Windsor and Richmond, had no existence.

At my suggestion Dr. Round has since examined the question independently, and he now writes: "I personally feel no doubt that the site of Ludlow was included in (the Domesday) Stanton Lacy. I say this from my wide knowledge of these matters. I believe that Ludlow *town* grew up around the Castle (as was the way in these parts) and that Eyton's belief in its antiquity is all imagination."

As Roger de Lacy did not become possessed of the manor of Stanton Lacy until his father's death in 1085, the Castle of Ludlow can hardly have been begun before, and this will account for the omission of any mention of it or the town in the Great Survey.

On architectural grounds alone there can be no hesitation in believing that the castle was already built before Roger de Lacy fled the kingdom, after his second rebellion against the king, in 1095, and the works of the second date may well have been carried out by his brother Hugh, to whom, on account of his

^a *Op. cit.* v. 280.

^b Keeper of the Department of Coins and Medals in the British Museum.

remaining loyal, Roger's estates were granted after his banishment.^a Hugh de Lacy died in or before 1121, when his estates passed to Gilbert, the son of his sister Emma, who took the name of Lacy. From him the Castle of Ludlow eventually descended to the two coheiresses of another Gilbert de Lacy, who died in 1234: Matilda, who married, first, Peter of Geneva (ob. 1249), and afterwards Geoffrey de Genevill; and Margaret, wife of John de Verdon.

By Geoffrey de Genevill Matilda de Lacy had a son Peter, to whom in 1283 his parents granted the Castle of Ludlow, a moiety of the vill, and other lands, all of which he held at his death in 1292.^b This Peter de Genevill probably began the great hall and chambers west of it. Since he died without a son, his inheritance passed to his three daughters. Two of these, however, became nuns at Acornbury, and the third, Joan, married before 1308, Roger Mortimer, lord of Wigmore, who after the death of Geoffrey de Genevill (father of Peter) in 1314 became joint lord of Ludlow with Theobald de Verdon, grandson of Margaret de Lacy.

To Roger Mortimer, who in 1328 was created Earl of March, may be attributed the completion of the block west of the great hall, and the fourteenth-century buildings east of it. He also certainly built about 1328 the chapel of St. Peter in the outer bailey.

The second Earl of March, Roger Mortimer, grandson of the first earl, became possessed in 1358 of the whole manor of Ludlow, by exchanging the manor of Crendon (co. Bucks) with Sir William Ferrers for the moiety of Ludlow which had descended to the latter from Theobald de Verdon.^c

On the death without issue of Edmond Mortimer, the fifth earl, in January, 1424-5, Ludlow Castle passed with his other property to his nephew Richard, son of his sister Anne and Richard, Earl of Cambridge. He was created Duke of York in 1426, and held the Castle all through the Wars of the Roses, but was killed at the battle of Wakefield on 30th December, 1460. He was succeeded by his elder son Edward, who was proclaimed King of England on 4th March, 1460-1, when all his father's dignities and possessions became merged in the Crown.

^a Ordericus Vitalis, *Historia Ecclesiastica* (Paris, 1845), iii. 411.

^b Eyton, v. 278, 279.

^c Close Roll, 38 Edward III. m. 18d. Mr. G. T. Clark has wrongly assigned this exchange to Roger the fourth Earl (*Medieval Military Architecture*, i. 289).

The later history of the Castle has been so clearly set forth by Mr. G. T. Clark that it is hardly necessary to refer to it.

From 1472 to 1483 the Castle was the home of the king's two sons, and later on that of Prince Arthur, the elder son of King Henry VII., who died here in 1502.

In 1501, following upon a reform in the administration of the Principality, William Smyth, Bishop of Lincoln, was appointed first Lord President of Wales, an office which continued to be held by bishops down to 1549. In 1550-53, and again in 1555-8, William Herbert, Earl of Pembroke, was Lord President of Wales, and to him may be ascribed the prison block and stabling in the outer bailey. Sir Henry Sidney held the office from 1559 to 1586, and, as has been shown, carried out many important works. A later President, William Compton, Earl of Northampton from 1617 to 1630, has also left his mark upon the Castle.

The Castle was surrendered to the Parliamentary Army in 1646, but apparently escaped injury, though after the murder of King Charles I. the contents of the several rooms were appraised and sold. The buildings were again fitted up for use for the President, when the Court of the March was revived at the Restoration, but after the abolition of the Court in 1689 the Castle was for a time placed in the hands of a governor. An inventory of its contents rendered in 1708^a shows that much of the furniture was then in a dilapidated state. From Lord Powis's collection of plans and drawings, made in 1765, it appears that many of the floors and partitions were then remaining, but the roof of the Judges' Lodgings was a mere wreck, and by 1811, when the Castle was sold to the Earl of Powis, it seems to have fallen into its present roofless and ruinous condition. It is now excellently cared for.

P.S.—Among the Blakeway MSS. in the Bodleian Library^b is the following description of Ludlow Castle, described as "From Mr. W. Mytton's collections, and there expressed to be from the papers of Mr. R. Perkes, junr.," who was town clerk of Ludlow from 1719 to 1751.^a As will be seen, it records several

^a Thomas Wright, *History of Ludlow* (Ludlow, 1852), 436-439.

^b Blakeway MS. 11 ff. 221, 222.

facts that are not noted elsewhere; and is of value as showing the ascriptions of the various buildings shortly before the Castle fell into ruin:

Now I come to describe y^e several Rooms in y^e Castle. First I shall mention y^e outward Green, the Castle as built by Roger de Montgomery has been improved by the owners and a great deal of Building added to it, in the outward Green there is a Prison which was built in the time of Queen Elizabeth and in the Presidency of the Earl of Pembroke ^b which is next adjoining to the entrance which is called the Porters Lodge over the Gate and also on the south side of this Green are Stables which were built in the Reign of Qu: Eliza: and Presidency of the Earl of Pembroke which are now in ruins; there is also the Wood Yard, and next to that the Court House of the Marches of Wales, in which sate the four Welsh Judges with all other officers belonging to this Court, to try and determine Causes, a place once of great Request, in which all the Records belonging to the Court of the Marches were kept, but since the Revolution has been utterly ruined, and the records have been taken out by the Dragoons and people of the Town for their own use, or sold by the Dragoons to them. And now I come to a little Tower built by King Edward y^e IV^h, which is next to the Court House and so to the Mote, and now I must go into the inner Green; at the entrance of w^{ch} was y^e Judges Lodging, and so Eastward y^e Wash House (Landry), and then to the Chappell in which Stalls and a seat raised high for the Prince and nobility (N.B. y^s is not in y^e Chappell but comes out of another room ^c and so juts into the Chappell) in which Chappell are y^e Coats of Arms of y^e Presidents and those y^t practised in y^t Court 1672. & a passage from thence leads to the Council Chamber where y^e Prince is Pressent Lord President Judges and Head offices determine the affaires belonging to the Principality of Wales, in which are y^e names of y^e L^{ds} Presidents on y^e wall; from which Room eastward y^e go to y^e Kings Chamber and Dining Room out of w^{ch} place there is Wigmore Hole and thence on to the walls which once might have been walked round, but now by reason of more Building near the wall cannot, on y^e west you go to other Rooms of State and so to the great Hall, out of which a pair of Stairs take you up on the 2d. loft where is y^e Guard Room, and next to that ye Princes Chamber, where Prince Arthur dyed, and other Rooms which lead to the Leads, from which place there is a noble Prospect, and now I come down stairs again to go out of the great Hall and from thence leads to the Larders and other Conveniences for keeping of meat, and thence to the great Kitchen where is now to be seen the great chopping block, ovens, stews, cisterns and a great fire place; and

^a The writer is indebted to Mr. H. T. Weyman, F.S.A., for bringing this description to his notice.

^b Probably William Herbert, Earl of Pembroke, Lord President 1550-53 and 1555-8.

^c This "other room" was clearly the upper story of the round part, which served merely as an ante-chapel, and from it there projected into the chancel, through the arch, a gallery or pew for the Prince and nobility.

thence y^o go to the Brewhouse where are y^e great Coolers, Tubs, furnace and other things now to be seen, where y^o go to y^e Prison for persons of Quality offending,^a which joynes to the Judges Apartment, out of which you go over a Bridge, over which is y^e arms of England sett up in y^e time of E.R. (i.e. Queen Elizabeth) 'tis reported y^t this was a Draw-bridge and that which is now called y^e Castle Ditch was full of water for the better security of the Castle, 'tis wall'd in very strong, but now there is no Lord President and a very small Salary belonging to the keeper of it and for want of fire and the building decaying the rain beats in and now lies in ruins, there is also a Bowling green with a little dwelling house belonging to it which is inhabited by the old [*sic*] and great windows Rooms and other things in the Castle.

^a The writer is here referring to the keep or great tower.



